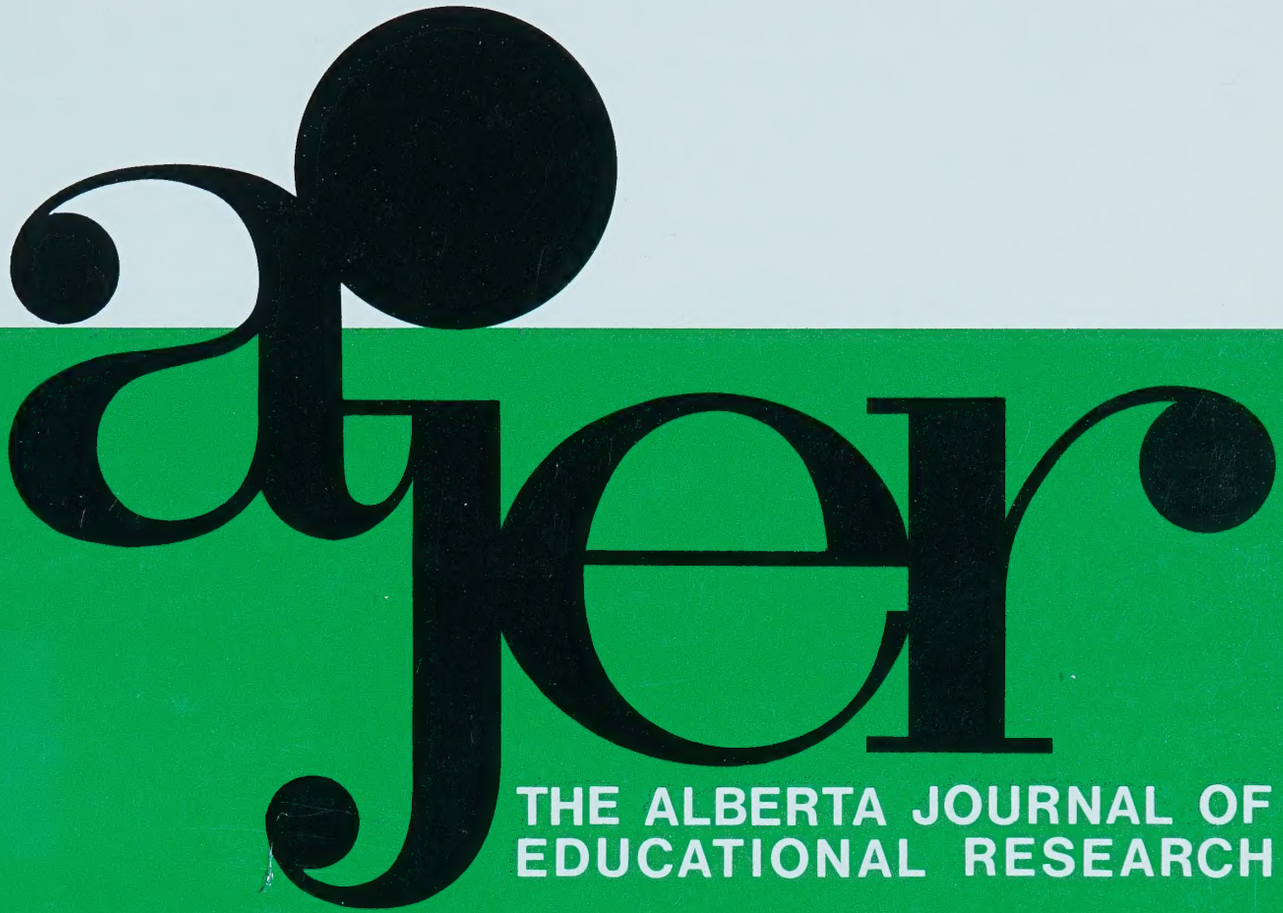

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EDITORIAL

A Thought on Research Imperialism

The Alberta Journal of Educational Research has served the Canadian educational research community for over 35 years. Generally speaking, we have published articles that have a national or provincial flavor with the goal of trying to encourage a distinctive research tradition. In the past few months I have had two occasions to reflect on this aim. Both involved seminars presented by prominent American research methodologists brought to our campus at great expense. In both cases the size of the audience was impressive, and it pleased me to see that so many people were interested in the study of educational phenomena.

Although both speakers came with outstanding credentials, neither knew much about the Canadian educational research community. Their reading apparently did not extend beyond their own journals, and their hosts had not informed them about the issues that currently burn in this country. Were I more cynical, I would have described it as an exercise in educational imperialism.

After the ritual apology about not being familiar with "what you people do up here," they spoke about research issues that currently dominate the agenda in the United States. The audience appeared to accept the transfer as though it automatically applied to the Canadian setting. Two examples come to mind. In the first case, the speaker spoke about how difficult is is to get qualitative educational research funded by national (American) funding agencies. She portrayed the qualitative research community as an epistemological underdog. This is demonstrably not the case in Canada. The Social Sciences and Humanities Research Council has provided generous support to several qualitatively oriented projects like the study of teacher thinking. The Canadian Society for the Study of Education has long had a strong group of qualitative researchers. Yet the impression left was that this is a general problem and that we would be well advised to devote some of our energy to correcting it.

The second speaker talked about the tyranny of testing programs and how the accountability movement warps the directions of true curriculum development. Although he may not have known it, the superficial similarities between the two federal systems are deceptive. Because the federal influence in education is much less in this country, because the traditions of educational administration at the provincial (state) level are so different, and because of the absence of a significant commercial testing industry in this country, the relationship between testing and curriculum is much different. Yet I feared that the audience left the talk with a feeling that the message applied to them.

Although the number of educational researchers in this country is small, there are many important thinkers. Their work has much to contribute to the solutions of problems that affect our educational systems. Isn't it time that we opted for contextual validity and sought advice from people who actually know something about the issues?

T.O.M.

The Alberta Journal of Educational Research *Vol. XXXVII, No. 2, June 1991, 99-118*

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and

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Some Perceptions of an Internship Program

This article summarizes an exploratory study of five beginning teachers' perceptions of a one-year internship. It addresses two themes revealed during analyses of interview transcripts: interrelationships among participants, and internship in relation to preservice teacher education. The interns' identities and status in the schools were mainly based on how they identified themselves and how they were identified through their association with the supervising teachers. Thus the relationship established between the intern and supervising teacher became the main determiner of whether the experiences could promote participant professional growth. As well, the interns believed that an internship program should be integrated with their preservice teacher education program.

Reality shock is the term used by Veenman (1984) to describe the experiences of beginning teachers as they make the transition from student status to full professional responsibility. Recognition of this period as being of key importance in the development of a teacher has led to the introduction of programs intended to provide support as the beginning teacher assumes the autonomy and authority of a professional. The concept of a transitional period of internship at the beginning of a teaching career is not new; Conant advocated the practice as early as 1963. But, following the reports of the Task Force on Teaching as a Profession (Carnegie Forum, 1986), the United States National Commission for Excellence in Teacher Education (1985), and the Holmes Group (1986) of deans of education which all endorsed the concept, an increasing number of programs are being implemented (Huling-Austin, 1987).

The literature on the subject of teacher internship reveals three major characteristics. First, a great deal of emphasis is directed at integrating theory and practice (Blackmore, 1968; Carney & Titley, 1981; Titley, 1984). Second, they are designed to "facilitate the transition from academic preparation to full professional responsibility" (Carney & Titley, 1981, p. 11). Third, notwithstanding these common characteristics in principle, there has been, and there continues to be, a wide range of programs all carrying the

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label "internship." The structure of these programs shows considerable variation in duration, supervision, sponsorship, and the relationship to a teacher education program (i.e., pre- or postdegree).

Carney and Titley (1981) take issue with the labeling of a number of those programs as internships, preferring to call them extended practica. They note that these two terms are sometimes used interchangeably resulting in confusion. Their assessment of United States teacher internship programs led them to note that internship "follows other theoretical and practical aspects of preparation"; and, "is normally a terminal experience—the last stage before the granting of full professional status" (p. 16). This may indeed be the typical case, but many internships do not function in this way. Considerable latitude has to be granted in assessing whether these programs are intern programs.

Internships ranging in length from 16 weeks (Carney & Titley, 1981; Lang, Cornish, & Trew, 1980) to a complete school year may occur after completion of undergraduate studies (Slentz, 1978) or integrated within an extended undergraduate program (Jones & Barnes, 1984). During these periods, the interns may be supervised by university staff, school staff, school district consultants, or representatives of all of these, depending on the sponsorship of the program. Some programs make provision for the interns to return to the sponsoring institutions on a regular basis for discussion while others include on-site, inservice sessions (Allen, 1986; Harker, 1978; Mickelson, 1980; Silvernail & Costello, 1983). Some internships are prerequisite to graduation or certification, while others replace the probationary or induction year (Lawrence, 1985). Interns may be contracted and salaried by the local school board.

Most of the literature reveals investigations of programs that were incorporated into a university or college program leading to teacher certification, what Carney and Titley (1981) would probably consider to be a form of extended practicum. These studies usually examined some aspect of the field experience in relation to teacher development (McIntyre, 1983). It was not often, however, that much information was provided "about the structure of the student teaching experience itself beyond descriptions of when it took place, its length, and the number of classroom placements" (Zeichner, 1987, p. 101).

There have been some attempts, however, to investigate internships following completion of a degree. Silvernail and Costello (1983) compared traditional student teaching programs and internship programs for their impact on preservice teachers' pupil control perspectives, anxiety levels, and teaching concerns. Tabachnick (1980) described changes in graduate program interns who spent much of the time working in low-income area schools. Lawrence (1985) investigated peer evaluation in a one-year internship following graduation, and Slentz (1978) reported on a one-year graduate internship following teacher certification that, when combined with further study, could lead to an MEd degree.

One issue that needs further investigation regarding field experience programs is just how the experience itself is perceived by the participants. Zeichner (1980), in a paper on field experience in a preservice teacher educa-

tion program, argues that "the characteristics of field-based programs are not to be found in public statements of intention, but through an examination of the experiences themselves" (p. 53). When the opportunity arose to investigate a year-long internship program following certification, it was this notion of the experience of the participants that was considered by the researchers to be of paramount importance.

This article attempts to answer the questions: What interrelationships exist between the various participants of an internship program? and, What relationship exists between a postdegree internship and a preservice teacher education program? by describing an exploratory study of five beginning teachers' perceptions of their experiences in an internship. From the perspective of an intern, such relationships and established meanings are not static but are subject to constant readjustment as each individual strives to make sense of the world in which he or she works.

Conceptualizing Internship

The process of becoming a teacher has frequently been conceived as one of becoming more proficient at putting theory into practice. It begins with preservice programs in which theory is learned first and then practiced during student teaching. Fragmentation of teacher education into discrete program units has served to accentuate the belief that theoretical knowledge comes first, to be superseded by practical knowledge resulting from experience in the school context (Lanier & Little, 1986). Internship is seen as providing an extended opportunity for translating theory into practice, serving as a bridge between the two (Titley, 1984). The successful crossing of this bridge represents the completion of the transition from student of teaching to teacher. In this framework, the valued practical knowledge confers on the experienced teacher the status of expert in relation to the beginning teacher. The expert is able to provide support in the form of information, organization, demonstration, and facilitation. The supervisory nature of the expert-novice relationship ensures that any transmission of support is predominantly one-way.

An alternative framework to this linear progression from the theoretical to the practical rests on the assumption that theory and practice inform each other in a reciprocal mode during the process of becoming a teacher. There is a perpetual interaction among explanations, actions, and reflective experience. Regardless of context, teacher education is continuous and never complete: There is no conclusion to the phase of being a student of teaching. Internship is regarded in this model as the context in which the beginning teacher recognizes the interchange between theoretical and practical knowledge. Collegial relationships with experienced teachers provide the opportunity for reflection on the teaching act in a two-way exchange of critical analysis.

Too often beginning teachers in a traditional model come to believe that the way to learn more about teaching is through trial and error rather than through careful thought and scholarship. Lanier and Little (1986) are critical of this approach when they write "A model of field experience consistent with the liberal-professional approach to teacher education would strive to pro-

duce a deeper understanding of the way theoretical concepts from psychology, curriculum, and sociology are played out in classrooms" (p. 551).

They further support the notion of a liberal-professional approach, or an emphasis on the relationship between theoretical and practical knowledge, by indicating that as educators we should be providing "learning opportunities that will help prospective and practicing teachers acquire needed technique in ways that keep management in the background and student learning in the foreground" (p. 552).

Initiation to Teaching Project

In 1985, the Department of Education in Alberta announced the Initiation to Teaching Project or internship program. This project was to provide for the employment of up to 900 interns each year for a two-year period beginning in September 1985. Participating interns would not be employed as teachers, but would work under the guidance and supervision of experienced teachers selected by the principal of the school. The experience was to enable beginning teachers to refine their teaching competencies.

In order to be eligible, applicants must have resided in Alberta for at least three years, graduated from an Alberta teacher education program during the previous 18 months, and either possess or have recently applied for an Alberta Interim Professional Teaching Certificate. Further, they should have been unemployed or underemployed for at least four months and not have had previous employment as a full-time teacher.

Funding for the project was provided from three sources: Alberta Education (35%), Alberta Manpower (50%), and local school boards (15%) so that the intern employed through this program received a salary and benefits package of up to $15,600 for the school year. Alberta Manpower provided for a further grant of up to 75% of instructional costs to a maximum of $1,000 per intern for inservice and professional development.

Two principles were followed to guide the operation of the project.

1. The placement of an intern shall not result in the displacement of full, part-time or substitute staff.
2. The placement of interns and the program designed for each is a local responsibility. However, the program should have the following characteristics:
   a. guidance and supervision by certified teachers, selected by the principal, subject to approval by the superintendent (little if any professional preparation was provided for the supervising teachers);
   b. a planned program for the assumption of progressively greater responsibilities in the classroom (locally developed sequence);
   c. a full range of teaching experiences relative to the interests and abilities of individual interns;
   d. opportunities for participation in professional activities outside the classroom;
   e. clear identification of the expectations regarding the performance of the intern;
   f. provision of opportunities for the evaluation of the performance of the intern, consultation and remediation as required during the period of

participation (evaluation done primarily by the supervising teacher in consultation with the principal).

Information about the internship program was provided to prospective interns by Alberta Education and the Alberta Teachers' Association. Another source of information was through university classes and professors who sought information about the project. With regard to the individuals in this study, all had become interested in the project because they believed it was an excellent way to gain valuable experience without taking on full teaching responsibility. They also believed that such employment might lead to more opportunity for a full-time teaching position in the following year even though permanent teaching positions were not easily obtained.

Method

Werner and Rothe (1980) classified the methodology used for collecting and analyzing data in situational-interpretive studies such as this one into three phases: preentry, entry, and follow-up procedures.

Preentry concerns itself with the initial discussions with the participants. Because this type of research is based on conversation, participants' acceptance of the researcher is critical and entry must be planned carefully. The participants must have a clear understanding of the research and data gathering techniques to be used.

Following the decision by the two principal researchers to engage in the study, it was decided to limit the study to all of the secondary science interns in one major school system. It was restricted to one school board in order to limit variations in workshops available to the participants. The secondary science subject area was chosen because of the personal interest and academic backgrounds of the principal researchers, and because they: (a) knew the interns on a personal basis; and, (b) had a good working relationship with many science teachers teaching in the system. The possible sources of data included five science teacher education graduates who had completed their program during the previous year, five supervising teachers who had been identified by their principals, and five principals from the schools in which the interns were employed.

Permission was sought and received from the school board to carry out the study and to proceed with contacting the interns, their supervising teachers, and the principals of the schools involved. After providing a brief description of the program, an initial inquiry was made as to their willingness to participate. All the interns, supervising teachers, and four of the five principals agreed to participate in the study.

Following the initial contact by telephone, each supervising teacher and principal was visited by one of the researchers who outlined the investigation. Anonymity was guaranteed as much as possible, and participants retained the right to withdraw from the study at any time. Interview schedules were established that allowed for each intern to be interviewed four times: late October to early November, mid-December, mid-February, and early June.

The second phase, entry, involves data collection, and the method used was individual semistructured interviews. Prior to each set of interviews, the principal researchers developed the questions they wished to ask the par-

ticipants as guidelines for the interviews (see Appendix). The questions provided an outline of the topics for discussion but not necessarily the sequence. Freedom of movement within the interview situation was deemed essential to the process of data gathering, as was providing the opportunity for open-ended discussion on topics initiated by the participants. All interviews, averaging approximately one hour in length, were conducted at the schools and were tape-recorded.

Following each set of interviews, the researchers compared notes and prepared another set of questions for the next set of interviews using an initial interpretation of the previous interviews as a guideline. These preliminary interview analyses were validated with the participants by comparing the researcher interpretations with those of the participants at the beginning of the following interview.

Follow-up procedures involved transcribing all the tapes and conducting an analysis of the transcriptions. The tapes were transcribed by a research assistant and after several meetings of the researchers and the research assistant, it was decided to transcribe all the first interviews verbatim but to do some initial editing of the tapes while transcribing subsequent interviews (all tapes were saved for confirming details). The editing involved mainly deleting from the transcriptions introductory statements by the interviewers or conversation unrelated to the study, fillers such as, um, ah, well, and the utilization of some shorthand for common words and phrases. Emotional responses depicted by pauses or exclamations were retained in the transcripts by coding because of their significance in relating to the atmosphere, environment, and possible stress being felt by the participants.

During the initial interpretations, the researchers drew four major themes from the data: concerns relating to the administration of the program (e.g., funding, evaluation, salaries); teacher professional development (e.g., theory/practice relationships, teacher growth); preservice teacher education (e.g., relationship of internship to the BEd program); interrelationships among participants (e.g., expert/novice, hierarchial, collegial). The transcriptions were reread and coded according to the four major themes. Each theme was then analyzed to draw out subthemes and second-level interpretations. These interpretations were used as a means of coming to understand more deeply the phenomenon of internship as experienced by the participants. This paper addresses in part two of the four themes: interrelationships among participants, and preservice teacher education and its relationship to an internship program.

The Participants

All supervising teachers had been actively involved in preservice teacher education as cooperating teachers during practica and had at least 15 years teaching experience. They were directly involved in the intern selection process by interviewing candidates for the position at their schools. The principals were quite supportive of the intern project—two of them were successful in acquiring two interns for their schools. The principals had requested their staff members to present proposals for being supervising teachers and, in fact, encouraged specific members of their staff to submit

such proposals. Typically, they sought staff members who had been involved in the student teacher practicum programs. Once the supervising teachers were identified, they were directed to select possible intern candidates from a roster of applicants and interview them. The principals preferred the supervising teachers, who would be working most directly with the interns, to be the interviewers of the applicants and make the selection.

The intern participants in this study were five science education graduates ranging in age from 22 to 30 years, who had completed their Bachelor of Education programs during the previous year. Three interns were female. One of the women was employed at a senior high school (grades 10-12) while the other four interns were at junior high schools (grades 7-9).

The intern placed in a senior high school, Ann, was directly supervised by one teacher, but Ann also worked closely with four other teachers and taught at three grade levels. She was also heavily involved in extracurricular activities such as a drama club and as a coach for one of the girls volleyball teams.

Cal was at a junior high school where he worked with a teacher who had served as his cooperating teacher during one of his student teaching experiences. Cal had been requested to apply to do an internship and knew where he would be placed should he be interested. Cal and his supervising teacher had a mutual respect for one another from the beginning of the internship.

Betty was convinced that she wanted to do an internship immediately on learning of its availability. She had already experienced the stress of total immersion in a full-time position immediately after completing her training in a previous career and did not like it. She responded to a request to be interviewed by a prospective supervising teacher and succeeded in getting the position at a junior high school.

Edward had neither a job nor an internship at the onset of the 1985-1986 school year and had planned on being a substitute teacher. However, when an internship position became available during the middle of September, Edward applied for it and was accepted. The position that Edward filled had been vacated by an intern who had accepted a full-time teaching position in rural Alberta.

Doris had graduated from Education during the previous year and had completed six months as a supply teacher, experiencing success during a two-month assignment in one school. She thought the internship would provide her with a different experience than supply teaching and also a sense of permanence.

The Interns' Perceptions

Of Relationship to Self as Intern

In attempting to define their position during the first weeks of internship, it appeared to be easiest to simply relate it to some other profession or trade with which either they, or the people with whom they were interacting, were familiar. The availability of a common label, such as intern, was very convenient.

> To me, it's the same as an M.D. getting their doctorate ... he still has to intern. (Edward-1)[1]

> I've called myself an apprentice, because whenever I've said to people, I'm an intern, they say, what's that? (Cal-1)
>
> Even when I'm introduced [in another class], I was [supervising teacher's] intern. (Betty-1)

The acceptance of a student role seemed quite appropriate for the interns. After all, they had been students for most of their lives and had only recently graduated. On accepting their positions at their schools, all of the interns saw themselves as learners, or their supervising teachers put them into learners' roles, by controlling their involvement. The following excerpts illustrate this point:

> You get to watch a class in action with someone who is experienced, you get ideas ... you look at the ways one would handle a demonstration like an experiment. (Edward-1)
>
> Right now I take all the science classes, am making up units, teaching units—I still plan with [supervising teacher]—she tells me different approaches to try but allows me to put in my own approaches. (Betty-1)
>
> But, he's someone to talk to, to analyze, to give suggestions, to create scenarios that he obviously knows well or has gone through [experienced]—there's a lot of stuff to learn real quick and it [having a supervising teacher] makes the transition much easier. (Edward-1)
>
> I have the opportunity to learn from not only [supervising teacher's] ideas but also from my own. (Betty-2)
>
> When we started out, there's not that much responsibility and you know, I felt very much like a student. (Betty-3)

Seeing themselves as student teachers seemed to be natural. Some of these interns had just completed a round of student teaching a short four months prior to becoming interns. In Cal's case, he had returned to the school in which he was student teaching and his current supervising teacher had also been the teacher with whom he worked during student teaching. Quite simply, initial perceptions of their roles were those of student teachers.

> I see it more as a whole year of student teaching—it depends on who I'm working with—some students or teachers treat me as a qualified teacher—others treat me as a student teacher. (Ann-1)
>
> Didn't know what was expected of me—never could separate it from being a student teacher—found that I approached [supervising teacher] in the way I approached all of my cooperating teachers. (Betty-1)
>
> As a student teacher, you felt you had to go along, to a certain extent, and in the classroom, when you're watching someone's teaching style all the time, you tend to take that on—that's hard to separate here too and that bothers me because you want to be assertive and have your own teaching styles—but you tend to pick up on the style of the supervising teacher as I have. (Betty-1)

Of Relationship with Supervising Teacher

The interns were obviously influenced extensively by their interpretations of how they were viewed by their supervising teachers. After all, these were the

people who had contacted them, interviewed them and recommended that they be hired. The supervising teachers were also those who were given the responsibility to determine their roles; extend or delimit their experiences; provide a model which must be followed or encourage them to develop their own style; allow them to grow in stature, or maintain their subordination; and, finally, these teachers would evaluate their progress.

During the interviews with the interns, it became clear that they were anxious about the personal relationship that they might develop with their supervising teacher and that it was this personal relationship that would greatly influence the level of satisfaction that they would derive from their internship.

> It's a very personal sort of relationship between teacher and intern—it becomes that personal relationship that determines what the internship will be like. (Betty-2)

As the year progressed, it became obvious that the interns were experiencing varying degrees of independence. The supervising teachers could either hold power or relinquish it. In Doris' case, for example, it appeared that even though she was given some status as a certificated teacher at the beginning of the year, her supervising teacher controlled her level of independence during her internship and the level of independence or growth did not seem to increase as the year progressed. At mid-year, she appeared to be having some communication problems with her supervising teacher to the point where she was having difficulty in reading their relationship. By the end of the year, Doris felt that she had been manipulated.

> I was introduced as a part-time science teacher—just another teacher on staff. (Doris-1)

> [Supervising teacher] has given me a lot of independence—she listens from prep room but I can do what I want—she's here to guide. (Doris-1)

> Christmas will be good for [supervising teacher]! I think [supervising teacher] needs a break! So I don't really know what's going on with ——, it seems to me that —— is under a lot of pressure right now. ...Yesterday we had a good little talk, we laughed—it's been quite a while since we laughed together. (Doris-2)

> I was manipulated and I suppose toward the end of the year, I should just "have it out" with [supervising teacher] and "clear the air." Probably controlled in a sense. (Doris-4)

It appeared that Betty's status was, if anything, even more controlled than Doris' by her supervising teacher. She started her internship with enthusiasm but did not seem to gain status on her own or from the supervising teacher. She remained as a student, by and large using her supervising teacher's materials. She was controlled by the person who determined her activities.

> As far as incorporating anything into the unit, I feel I'm free to do that—my own ideas—I do use some of [supervising teacher's] material right now, worksheets etc. I don't feel like going in there and changing everything because of my position as an intern. (Betty-1)

> I'm beginning to feel more like a teacher but yet at the same time I feel like a student because I can never really assert myself toward being a teacher. (Betty-4)

> I'm sitting there and [supervising teacher] won't [let me substitute]—she gets very upset if I watch someone else's class for maybe a period—that's [no subbing] her expectations—maybe I lost something there because I was under one person. (Betty-4)

Ann's internship experiences began in a different way from all the others and it had its stormy times. She started her year working directly with one supervising teacher and indirectly with four others preparing for five different classes. This arrangement was through mutual agreement and, to a large extent, was a result of her desire to work with a number of different people so that she could make her experience as broad as possible.

> [Supervising teacher] asked me "What would you want to do?" and I said I wanted to work with a number of different teachers and areas—even areas I don't have a background in, to see different teaching styles and interrelations between students and teachers—so it was decided. (Ann-1)

Her relationship with her main supervising teacher was rather loose, and Ann seemed to have the freedom to accept or reject requests from other teachers for her assistance. She soon found herself overburdened to the extent that she wanted to set up a meeting with all her supervising teachers. It was quite obvious that her supervising teachers had either allowed her to gain the status and confidence necessary to make such a request, or through their interaction Ann felt that she would not be viewed negatively by taking the initiative in calling such a meeting.

> We set up a meeting—I sent around "Happygrams" inviting all the teachers I work with ... so everybody would know what my position is and what my commitments are. So they understand why I have to say "no" sometimes.... the meeting clarified things.... a lot of them said I was doing too much—more than a first year teacher. (Ann-2)

In reflecting on the year's activity, Ann saw herself as being very fortunate in having so broad an experience.

> I think it would be easiest to have just one person to work with—I would know exactly what he was like and develop a good working relationship. Whereas I think I'm much luckier having worked with five teachers—each of them have different styles and personalities—not only getting to know them personally but also their teaching styles.... The people I'm working with have excellent questioning techniques, good wait-times, very good people—I guess I'm working with the "cream of the crop." (Ann-3)

Edward and his supervising teacher became known as a team in their school early in the year. This was not surprising because there already were teamed teachers in the school in mathematics and social studies. Another team was not seen as a novelty. Being labeled as a team seemed to encourage them to perform as a team. Together they planned ways in which they would either accept or reject requests for Edward's time or assistance. Whenever either was asked for Edward's help, that person always had to check with the

other's planned activities. Substitute teaching was occasionally accepted if the situation seemed to warrant acceptance and the experience was seen as a broadening one. They discussed teaching learning situations as a team and seemed to develop a mutual respect.

> They [students] tried to play [supervising teacher] and I against one another, and we find that kind of enjoyable. (Edward-1)

> We can laugh when we "blow it"—a working friendship—pretty close. (Edward-3)

> I'm very comfortable with the man, I'll probably keep a friendship with [supervising teacher] the rest of my life whether I stay here or not. I've got a lot of respect for him as a professional—his interest lies with students. (Edward-4)

Cal's situation was unique as far as the different internships were concerned: he was with a former cooperating teacher from student teaching days. They knew one another and seemed to start their relationship on a more collegial level.

> We knew each other before and we had some experiences with each other before, I'm enjoying a great amount of freedom and confidence that [supervising teacher] has in me. (Cal-1)

They established flexible guidelines through mutual agreement and were directed by those guidelines.

> I like the idea of a mentor, he's the person who I can approach at a moment's notice; he's the person to help me with professional growth. (Cal-1)

The supervising teacher, however, maintained a superior status by being the final decision maker with regard to his intern's involvements in other school activities or responsibilities. Cal saw this as being a way in which he was protected from getting overburdened.

> [Supervising teacher] has made it explicit that if there are any changes to be made to my program they must be through him and I second that fully. (Cal-2)

Of Relationship with Students and Classrooms

The interns were located in schools where the students were already experienced in having student teachers. The interns realized that in the eyes of the students they behaved and appeared as student teachers. They observed the cooperating teacher's classes and even sat at the desk where the student teachers normally sat.

> At the beginning, they didn't know who I was—a student teacher—perhaps because I took the student teacher's desk. (Doris-1)

The students, already familiar with the four-week periods of student teacher practicum programs, recognized that the interns were something different when they were still at the school after four weeks had passed.

> At first they were very confused ... they were kind of used to people being in the classroom because of student teachers. But they found out—"Hey, four

> weeks are up, the guy hasn't left us!"—they finally got the idea and they kind of like it. (Edward-1)
>
> They [students] didn't know who I was and I think now they do—I'm a teacher here. So I've kind of risen above what I was, at the beginning. Also how I see myself too, because sometimes they'd ask me "Are you going to be teaching here next year?" So, they see me as a teacher. (Ann-4)
>
> Also, the students have a better understanding of who I am. It's nice to have a student say I'm their favourite teacher and I'm the intern here—that's a real feather in my cap! (Ann-4)
>
> I've got a homeroom and at first they were confused but *now* I'm a teacher on staff to them—that is sort of part-time. (Doris-1)

For the participant interns, recognition of their status as above that of student teachers was important. It signified a separation of the stage of preparation from the beginning of practice, or a movement from student teacher to teacher. Accompanying this perceived rise in status, some participants experienced a sense of authority and power:

> So right now [after two months], when it comes to assignments, when it comes to marking, I'm the final authority. I'm the teacher, and I'm perceived as such. (Cal-1)
>
> For the most part that was my class, and now when we're doing marking [the supervising teacher] said I could have done it on my own, because the [supervising teacher's] sort of out of touch with it and they've been coming to me. (Ann-3)
>
> On the whole, the staff will actually consult me about [the classes I teach]. (Cal-4)
>
> Relationships [with students] develop where you could use them as "controllers" in the classroom and he did all the work for me as far as behavior was concerned. (Edward-4)
>
> We'd both be in the classroom and often times we'd both speak at different times, and we were very good at that, co-instruction really went well. But in terms of "whose classroom is this?"—I had to straighten that matter out, and to really get into the teaching act, I had to own the classroom. It had to be my family. It had to involve individuals who had to answer to me and to whom I had to answer. (Cal-4)
>
> With the administration, everything goes through [my supervising teacher]. Yesterday, I had a parent call for me—boy, did I feel good—I'm not a teacher, I'm someone with [supervising teacher] who is the teacher. (Betty-4)

Internship and Preservice Teacher Education

A major theme that seemed to grow out of an analysis of the transcripts focused on the relationships of theory and practice. Much of the writing in recent years regarding educational theory does not make direct reference to practice. It is this dichotomizing of theory and practice that has led to the "mode of intellectualism that is so dominant in our culture, such that only a few see difficulty with [the statement] one should know theory first and then apply it to practice" (Aoki, 1984, p. 12). However, a growing number of

scholars on the North American scene are disillusioned with logical positivism and with the theory-practice dichotomy it represents.

It became evident that the interns were, by and large, steeped in a mode of thought that exemplified the dualism of theory and practice. Yet many of their comments seemed to suggest a "coming back" to their previous educational experience (preservice education) in order to better understand their current situation. It appeared that in real-life situations (i.e., internship), theory and practice were opposite sides of the same coin (praxis). Groome (1980) states it as:

> To understand praxis requires a shift in consciousness away from dichotomizing theory and practice, towards seeing them as twin moments of the same activity that are united dialectically. Instead of theory leading to practice, theory becomes or is seen as the reflective moment in praxis, and articulated theory arises from that praxis to yield further praxis. (p. 152)

It may be that internship might be approached as a praxiological act. In Freire's (1972) words, "Praxis is reflection (thought) and action (practice) upon the world in order to transform it." Freire is critical of the dualism created by separating theory and practice which can result in action without thought (anarchy) or thought without action (verbalism). It appeared from our reading of the transcripts that what the interns were actively engaging in was purposeful and reflective action by which knowing arose through engagement in a social situation.

Some educators suggest that theory becomes more meaningful after having some experience; it is quite common for student teachers to separate theory from practice during their teacher education program when they take methods courses along with their practica, unless the course assignments demand some integration. Edward saw a lack of practicality in university coursework, whereas other interns either recalled information from their coursework that became pertinent to their classroom situations, or had experiences emphasizing either the separation or the integration of theory and practice during their internships.

> I'd like to see a little more emphasis [in courses] on the mechanisms of teaching.... implementing ideas into the classroom. (Edward-1)

> Often I go back and look at my notes ... refer a lot to [curriculum and instruction] book with teaching skills in it. (Betty-1)

> One of the things C & I [curriculum and instruction] did teach me ... was the actual preparation; organization ... theories as well—at the time I thought it was a waste, but ... I bump into them or end up using them ... I wish I had spent more time discussing them. (Ann-1)

> Then when I came out, I started seeing connections and ties [with university courses]. It would have been more useful if I'd had a bit of experience and then some theory and then gone back out again. (Ann-4)

> There's no time to reflect in your CI's and then you're going out into your teaching rounds and coming back and it's just a little too rushed but generally in the overall picture, they're very good. I'm now getting the benefit of those by going back and looking at the materials that I had. (Edward-1)

Toward the end of their internship, when the interns were asked to consider how such an internship as they had experienced might relate to an optimal teacher education program, numerous aspects emerged.

The need for integrating internship experiences with curriculum and instruction courses was emphasized.

> You gotta have the C and I [curriculum and instruction courses] definitely, but maybe you could incorporate the CI in with an internship where they do go back and then there's times here [school] when you're definitely not needed. (Betty-1)

> A lot of theory—you don't *really* understand it until you've actually gone out and taught. Then when I came out I started seeing connections and ties. It would have been more useful if I'd had a bit of experience and then some theory and then gone back out again. (Ann-4)

For some, the internship was seen as being much more important than student teaching, whereas others saw student teaching as an important kind of prerequisite to internship, and that an internship would produce more proficient teachers than a full-time first-year teaching position.

> I'm really glad we had the opportunity to experience a practicum before the internship, because it's almost like a testing ground to see if you could handle the internship ... if you don't have that then you may as well not continue. (Ann-1)

> I think the internship program, philosophically and practically, is a logical prerequisite to becoming a proficient first year teacher. (Cal-2)

> I've gotten a more rounded experience ... I've worked with more people. I suppose a first-year teacher would do that to a certain extent, but I think I have less tunnel vision. (Ann-3)

When considering how or where an internship might fit into a teacher education program, the interns were not in total agreement. Doris believed that it should be separate from the university program, whereas the other interns preferred to see it associated with their university developed teacher education program. During discussions of this topic, the relationship of internship to various other aspects of becoming a fully certificated teacher surfaced. Questions that became important included: How should the time devoted to an internship be recognized? Should it be seen as pensionable service? Should the internship be a requirement for permanent certification or should it be optional? and, How long should an internship be?

> I'm not really gung-ho about making it a year on your pension and increments, etc. I'd much rather see it attached to university and be a qualifying year that elevates your qualification as a teacher. (Cal-2)

> And it [internship] should possibly be the final year or most of the final year with the concluding section at the university. I wouldn't take away the student teaching. (Cal-2)

> I would love to see the internship before a person graduates and it would eradicate a lot of things like the pay. It's [the pay] more acceptable when you

> don't have a degree in your pocket. Any negative thoughts that I have are for that reason. (Betty-1)
>
> I think it would be great if it [internship] was part of teacher education. (Betty-1)
>
> Use the internship toward permanent certification—do it exactly as they have it now, out of university, have an interim teacher certificate, intern for a year with that document, which makes you legally responsible for the welfare of the kids, but you are still supervised and then you are granted a permanent teaching certificate—make it only a year. (Doris-4)
>
> I think it should be compulsory and I think that they could add a fifth year and make it a year of teaching and it should be paid and it should count towards permanent certification if it's a successful year. (Ann-4)
>
> What I would like to see it as a 6 or 8 month program within a year. Until you've done an internship, you get a temporary certificate but you cannot get your permanent status until you've completed that internship. (Edward-4)

Discussion

The Initiation For Teaching Project

Through our involvement in this research and in particular our discussions with the participants, it became clear that this project was hurriedly conceived and initiated after only a short gestation. Neither the interns nor the school personnel participants had clear understandings of their roles. For example, most of the interns wrongly perceived that their involvement in the project would lead to a better opportunity for gaining full-time employment as a teacher in the following year. The suggestion that the intern was to be evaluated promoted the development of a student teacher-supervising teacher relationship among some participants. This was totally incongruent with the fact that the interns already had been certificated and, as such, could have sought employment as fully qualified teachers. In retrospect, this initiation to teaching project can be described as a too rapidly implemented make-work project at a time when newly certificated teachers were not in high demand.

The Identity of an Intern

For the participating interns in this study, their identity as interns was problematic. In terms of the temporary nature of the position, the reduced teaching and administrative responsibilities, and the supervision by an experienced teacher, the similarities to their recent student teaching experience appeared overwhelming. As with student teaching, they both identified themselves and were identified by their association with the supervising teacher. They saw themselves as students needing to learn "real quick," to be "told" different approaches and to "go along with" the supervising teacher. Many of their concerns focused on how they fit into the teaching situation, paralleling stages described by Fuller and Bown (1975). The setting of the parameters for instruction by some supervising teachers maintained the student teacher dimension for their interns. For others, the classroom students and other teachers contributed to their recognizing themselves as teachers. Some social interactions with students and teachers may be per-

ceived as validating experiences (Jordell, 1987) in which the beginning teacher progresses toward an acceptance and affirmation of his or her situation as teacher.

The interns' perceptions of their individual situations revealed a desire for autonomy not built into an internship program that is expected to bridge an artificial gap between theory and practice. Autonomy requires understandings brought about by a mutual informing of theory and practice by the intern, and not interceded by the supervising teacher. For some participants in this study, the satisfaction of demonstrating responsibility through taking independent action shone through the haze of supervision.

The Nature of Support

In this study, the perceptions of the interns revealed predominantly hierarchial superior-subordinate relationships between themselves and experienced teachers. In becoming acquainted with the ways of acting in a particular school setting, there is an inherent one-way flow of information from those who already know to those who are learning. Internship may be regarded as a phase in which the novice is inducted into the teaching profession as a receiver of the rules of the game. For the interns, as with student teachers, this emphasis "often means a continuation of the teaching practices by which they were taught as well as the tendency to see the prevalent patterns of teaching as the only ones possible" (Lanier & Little, 1986, p. 551). Such modeling experiences by the interns are unlikely to make much contribution to their professional growth or those of the other of the participants, especially the supervising teachers.

The interns in this study noted the key role of the relationship with their supervising teachers. For one of the participants (Cal) the relationship was perceived as that between mentor and protégé, in which the mentor nurtures the social and intellectual development of a less experienced colleague, rather than the hierarchial relationship alluded to above. Galvez-Hjornevik (1986) suggests that the mentor-protégé pair connotes a voluntary and deep relationship "not limited to basic direction and encouragement" (p. 10) and as such, it is probably optimistic to expect such quality in teacher internship programs without some built-in program of preparation to help this come about. As Thies-Sprinthall (1986) has pointed out, experienced teachers are not necessarily effective mentors. She argues that there is a need for intensive preparation for the role so that the mentor is able to contribute an appropriate balance of support and challenge to the relationship. Unfortunately, in the program described in this study, there was no preparation for the supervising teachers in their roles as mentors. Among the outcomes of such a preparatory program for mentor teachers described by Thies-Sprinthall (1986) was a reassessment of their own classroom performance. The mentors all thought they were effective teachers prior to the program, and all decided after the program that their initial levels were often only partially effective (p. 18). Their ability to analyze and evaluate shifted from the lesser to greater complexity. In learning how to become mentors, these experienced teachers had grown in their understanding of the reciprocity of theory and practice.

All teachers, both beginning and experienced, are in the process of constructing and reconstructing meanings for their situations. Instead of becoming more proficient at explaining the teaching experience, the teacher becomes accustomed to seeing the experience as problematic. He or she then has the opportunity to engage in a reflective interchange with the situation, what Schön (1983) has called a "reflective conversation," in order to consider what possibilities exist for action. A collaborative inquiry into the overlapping situations of intern and mentor-teacher could be regarded as the intersection of reflective conversations. As colleagues, the two teachers attempt to make explicit the interplay of theoretical and practical knowledge in each situation. Through dialogue, the partners construct meanings for the problems at hand, rejecting any imposition of meanings through taken-for-granted routines or labels.

And so internship can be regarded as an opportunity for two-way support in a collegial relationship. Andrews (1987) has suggested a "confluence paradigm" for the linking of induction and inservice programs. Collegial support between teachers at varying stages of their development could become the basis for change. However, such exchanges must rest firmly on the duality of theory and practice. Too much emphasis on experience as simply practice, without theory-based questioning of the practice, may give rise to the sharing of introspections that actually inhibit the ability to see the range of possible decisions and actions (Buchmann & Schwille, 1983; Floden, Buchmann, & Schwille, 1984; Lanier & Little, 1986).

Recommendations

As a result of this study we believe that if the following recommendations were implemented, they would help develop a higher quality internship program.

1. That, prior to implementation, any internship program should be carefully conceptualized with input from representatives of all interest groups. The focus of the internship should be on the promotion and support of professional growth of all participants—in particular, the interns and the mentoring teachers.
2. That an internship program should be centered on the notion of collegial relationships among the participants, rather than on a notion that presents an expert/novice or hierarchical relationship. This would help to substantially reduce the separation of theory from practice and promote the development of the reflective practitioner. One way to promote the growth of collegial relationships would be to involve supervising teachers in an intensive preparation such as that suggested by Thies-Sprinthall (1986). The preparation would be designed to assist participating supervising teachers develop an understanding of mentoring rather than supervising.
3. That the internship program should be integrated with the interns' preservice teacher education program. Again, this would help the participants avoid the artificial separation of theory and practice and promote the development of more liberal-professional career teachers (Lanier & Little, 1986) where teacher education is considered to be con-

tinuous and lifelong. It is probable that such an integration would also help to incorporate more of teachers' practical knowledge into those university-based courses that are at present primarily theoretical.

Note

1. Each intern was interviewed on four occasions throughout the school year. The number indicates the sequence of interviews.

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Appendix

Questions Aimed at Initiating Dialogue for Two Intern Interviews

Internship—Interview #1

1. How did you first get involved in becoming an intern?
2. How did you become aware of it (internship)?
3. What were major influencing agents that led you to apply?
4. What kinds of changes have taken place in your thinking about internship over the past seven or eight weeks?
5. How do you feel about your choice to become involved in the internship?
6. How would you compare the internship with a first year teaching position?
7. How were your responsibilities decided upon?
8. How do you feel the students perceive you?
9. How are you perceived by the other teachers in the school (other than your supervising teacher)?
10. How does the feedback you receive now compare with feedback you received when student teaching?
11. How would you compare your internship with student teaching?
12. You've been at it (internship) for two months now, what are some of the most important learnings?
13. Do you see the internship fitting into a teacher education program?

Internship—Interview #2

1. What is your relationship with the students like now?
2. In this last while, do you sense any changes in your relationship with the other teachers?
3. As an insider, do you sense any changes in the relationships between your supervising teacher and the other teachers?
4. After nearly three months, how would you describe an ideal internship program?

5. Would a master teacher be making decision as to what your experiences should be?
6. How do you think an internship compares with a first year teaching position?
7. Have you noticed any change in how you're perceived by other professionals around you?
8. On the notion of legal responsibilities—what do you perceive as yours?
9. How would you feel about your role as an intern now if you were told that your professional responsibilities were nil, regardless of whether or not you are a certified teacher?
10. How would you see an internship relating to your precertification program? Your university program?
11. What other kinds of things have been highlights since the last time we talked?

Note: The above questions only served to initiate dialogue on a variety of topics during the interviews. Other topics developed and provoked different directional questions during the dialogues with each participant in relation to their responses and apparent interests associated with their very individual situations. Each intern was interviewed on four occasions throughout the school year. The number indicates the sequence of interviews.

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A Collaborative Approach to Help Novice Science Teachers Reflect on Changes in Their Construction of the Role of Science Teacher

This article describes an approach to the study of growth and change in student teachers' views about science teaching as they gain experience and practice in the field. Views about the thought and activities of science teaching were assessed prior to students' university teacher methods courses, then again following their classroom practicum teaching experiences. Student teachers provided linguistic categories (constructs) for various science teaching experiences, then collaborated with interviewers to convey their ideas about the reasons for changes that occurred in the application of these categories. The research approach allowed the collection of both objective (survey) and subjective (interview) data. Analysis of the types of personal construct changes that occurred allowed the delineation of categories of change as students became socialized in the role of teacher. Excerpts from individual case study reports illustrate the outcomes of the study and are the basis for considering the implications of incorporating student views in the design of teacher education programs.

> I don't know why there is so little effort to find out who the future teachers are before they come to the institution, or so little effort to socialize them into teacher education. (John I. Goodlad, in Watkins, 1990, p. A17)

Introduction

A new thoughtfulness is emerging in educational research. We are seeing the importance of directing our attention to knowledge as it develops within the person. In the field of teacher education there is concern with issues of individual coherence and integrity of understandings that are held by preservice teachers about teaching and learning. New research approaches are needed that allow insight into how teachers reflect and grow in their work. Goodlad's concern places a spotlight on the need for fundamental work in our knowledge of future teachers and the ways that we may guide their socialization into the profession.

In this article, an approach is described that has been developed to understand the changes that novice secondary science teachers experience during the first portion of a teacher education program. Several questions guide this ongoing research: What is the nature of the knowledge student teachers acquire in the process of learning to teach? How do student teachers change in their ways of thinking about teaching? What changes in growth and

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development are apparent to the student teachers themselves? These questions are of enormous theoretical and practical interest. The answers will help us to develop understanding of changes that occur for beginning teachers and how we might assist in their growth and development.

The problem of understanding student teacher knowledge acquisition is complex. Osborne and Gilbert (1985) note, "all teachers have views of learning which are implicit in their practice, but are rarely articulated, even to themselves." Such views may be even more difficult to access in the case of the student teacher. Student teachers are only beginning to clarify their views about science teaching and learning. They come to the student teaching experience with a wide range of beliefs and perceptions about what it means to be a teacher (Hewson & Hewson, 1988). Many changes occur in students' thinking during the student teaching practicum. This is usually a time when science teacher educators are not present to interact with student teachers. Teacher education programs are the first chance we have to begin to know our students, yet there is little opportunity to observe the ways that students make connections using the resources and ideas that teacher educators have attempted to make available to them. This difficulty may be largely due to traditional structuring of teacher education programs. Large classes impede knowing individual students well. We require new approaches to understanding changes in student teachers. Calderhead (1987) asserts that the processes of learning to teach are complex and not adequately conceptualized. He states further (1989) that "empirical research on student teachers' knowledge and thought processes and how these are influenced by alternative approaches and designs in teacher education might enable us to test out both the realities and possibilities of reflection in teacher education" (p. 44)

The Need for Collaboration in Reflective Practice

The central theoretical position of this work is that learning to teach is an active process requiring opportunities for interaction between thought and actions. The value of "reflection-in-action" (Schön, 1983) has been an important recent focus in the study of teaching practice (Grimmett & Erickson, 1988). It has been suggested that Schön attributes special meaning to this phrase (Grimmett, 1988), that is, the practice of reflection should occur in the action, and that this reflection is a kind of research oriented to practice. Schön (1988) writes:

> Research should be oriented to practice. Instructional supervision would be seen, on this view, as a research activity. Both the reflective teacher and the reflective coach are researchers in and on practice whose work depends on their collaboration with each other. It is the nurturing of groups of researchers of this sort, at the core of the schools of education, that I believe holds greatest promise for healing the breach between educational research and practice, revitalizing the schools of education, and mobilizing their resources in support of reflective teaching in schools. (p. 29)

Recent rethinking in the provision of teacher education practicum experiences has placed value on the personalized, reflective opportunities needed to enhance the student teacher's development and growth. Although teacher

educators attempt to provide experiences that allow students to reflect on and reorganize their thinking about teaching, institutional structures have not reflected the same pace of change. The resources needed to allow this to happen are not always available.

The Opportunities of the Student Teaching Experience

Fundamental to design of the research are several beliefs about educational practice. First, the process of becoming a teacher should be an occasion to value and clarify the principles and values that underlie one's own ideas about what it means to be a teacher. It should be a time of articulating one's images of teaching and of acquiring language for communicating ideas about teaching and learning. It should be a time for exploring ideas about interacting with students, about using curriculum resources, and about being in schools. It should offer a chance to explore many different methods of teaching. It should be a time of developing a deeper awareness of oneself in the task one is undertaking. Research into one's practice means valuing one's present ideas and teaching self. If this process is to be personally meaningful, it is from such opportunities that reorganization and reconceptualization of self as teacher can effectively take place.

Foundations of the Research in Personal Construct Theory

One might consider the experience of student teaching to be like the solving of a problem, or of a series of problems, at times even several problems at once.

In the view of personal construct theory, we straddle the unknown with what we know. If we are to consider the dilemmas of student teachers, it is valuable to consider what it is that they already know and what *they* consider actually to be a dilemma. This study explored what it is that students set for themselves as dilemmas at the beginning of their experience and what they noticed that changed for them, became new, or surprised them. We are interested in understanding the ways that students use what they know—how they see themselves using the material from the experiences we offer them to help straddle the unknown with what they know.

At the heart of the study is the belief that the chief participant in the experience, the novice teacher, should be deeply involved in the discussion that determines the meaning of the experience. The meanings attributed to the experience by the person actually having the experience, the novice teacher, are given high status. The project is rooted in a constructivist theoretical position concerning the development of teachers (Erickson, 1987; Shapiro, 1988). The principles of personal construct theory (Kelly, 1969, 1970) are used to explain the ways that student teachers understand changes in their experience. Personal construct theory provided a framework for helping the student teachers themselves analyze the meaning of changes in novice teacher thoughts about their own growth and development. The approach taken in the research permitted involvement of the student teacher in a systematic discussion about changes in their own development that they might not otherwise have been able to see.

Conduct of the Study

A reflective, collaborative interview was developed to elicit personal constructs and to allow interviewers and student teachers to come to know one another. Nine interviewers worked with 23 volunteer student teachers before, during, and following the first phase of their teacher education program. This consisted of seven weeks of methodology coursework followed by four weeks of practical classroom experience.

Survey information was collected and interviews were conducted prior to and following students' university based methods course (seven weeks) and their initial practical teaching experience (four weeks). Each novice teacher worked closely with an interviewer who assisted the student teacher in the development of sets of personal constructs. Personal constructs are essentially linguistic structures used by the individual to anticipate new situations, guiding behavior in a new or unfamiliar area. In this case, the new event was taking on the role of science teacher. Following the first seven weeks of coursework and the practical teaching experience, student teachers were guided to reconsider their thinking about the events of science teaching. Collaboration with a caring guide, the interviewer, allowed the review of the use of personal constructs, the novice's ways of categorizing the thoughts and actions of science teaching.

It is helpful to show the kind of distinction made by personal constructs. As an example, a student teacher considered "gathering laboratory equipment" to be an administrative task, whereas "conducting a demonstration" was considered to be a teaching task. The phrase *administrative task*, the student's term, is placed in opposition to *teaching task*. These two terms represent a personal construct. Once constructs are established, other events of teaching may be categorized using these terms.

The student teacher rated each task along a continuum linking the two constructs before and after the initial portion of the methodology course and the practicum experience. Significant changes in the student teacher's use of the original categorizations of teacher activities were pointed out by the interviewer. This aspect of the interview was one of the bases for discussion about change in the student teacher's thinking about science teaching. This collaborative interview allowed the novice teacher an opportunity to describe changes in thinking about teaching and learning in the novice's own words. Other information from survey results and informal conversations allowed deeper understanding of individual novice teachers' views about what teachers think about and do.

Personal constructs demonstrated for the student teachers themselves how they had changed in ways of categorizing the activities and events of teaching. In the fall, for example, one novice teacher distinguished activities that she stated were *activities which involve real teaching* from those that were *just administrative details.* In September, she placed the item "marking papers" in the category *just administrative details.* In February she placed the same item in the opposite pole of this category, *activities which involve real teaching.*

When this change was noted in the interview, the student teacher expressed surprise that there had been such a complete reversal in her thinking. She commented on how she believed her thinking had been transformed:

> I now see it [marking] as an important way of interacting with students on a daily basis. When I mark a paper, I'm making a comment to students, sometimes, I write one down. It's actually a way of communicating with them. I don't just correct it and give it back to them, I see what they did (laughs). I never thought of it that way when I got papers back myself, though. It's a way of talking to the students.

Personal Constructs as Collaborative Tools for Reflection

Personal constructs were used in the interviews as "tools for sensitive listening" (Mischel, 1964). The terms making up the constructs, contributed by the students themselves, helped to clarify original views about teaching and showed how these developed and changed from September to February. With the assistance of the interviewers, novice teachers reflected on growth and change in their views about teacher thought and action. Changes in the use of personal constructs served to direct attention to changes that occurred for student teachers during the methods and practicum experiences.

The great value of the theory in the collection of information is that it allows direction of attention to specific aspects of the experience. Student teachers fresh from their practical experience have often been asked the broad question, "What changes occurred for you in the student teaching experience?" This is a difficult question to answer. The novice has had so many experiences it may be difficult to decide which ones are most significant. In this study, reference to surveys and personal construct changes with the interviewer allowed students to discover how their thinking had changed in specific ways that were not immediately apparent to them.

Conceptualizing Changes in Students' Thinking About Science Teaching

The personal constructs proved to be a useful means of analyzing and reflecting on the new reality that was coming into existence for students. New images of teaching and learning emerged as students discussed the reasons for shifts in their constructs. New language structures emerged as students noted that occasionally their prior constructions no longer held, that new distinctions were now being made, and that new ways of construing experience were coming into existence.

The interviewer and the student teacher prepared statements to capture and convey the major areas of change noted in the students' thinking. The conversations were tape-recorded to preserve the students' own language. In addition to noting the changes, students were invited to identify the sources of change, the forces they considered at play, or to suggest possible reasons for the changes that had occurred.

The statements made in the collaborative interview were reviewed by the researcher for each individual case. Personal construct charts and changes were also reviewed. What was of prime interest in this review were the changes in thinking and acting that were apparent *to the student teachers themselves*, the ways that student teachers described awareness of transformations and changes in their own development. Categories were developed

to organize and consider these changes. The change categories were revised several times. Two assistants tested the categories by sorting statements from the collaborative interviews into the designated categories. The categories (listed below) delineate several ways that students themselves appear to understand their own growth and change.

Category 1: Awareness of Ideas That Have Been Simply Corrected or Old Dilemmas Which Have Been Resolved

The student teacher is aware that factual information about the realities of teaching and learning have been simply corrected. The student teacher may also be aware that he or she has resolved an old dilemma or question about teaching. Example statements are the following:

> Teachers work much harder than I thought they did.
>
> I thought that I would have more intimate contact and interaction with students in the classroom than I did. There is a much wider gap between students and teachers than I thought.
>
> I thought that teachers planned together much more than they do. There doesn't seem to be a need to follow curriculum as closely as I thought.
>
> I thought I would work much more with individuals than I did.
>
> Preparing lesson plans is not as important as I thought. *Thinking* about what we do is important, but the detail in the lesson plans is not so important.
>
> I was surprised that the kids did not perform nearly as well as I thought they would.
>
> I thought that students would be far more interested in science than they were. I'd have to honestly say that of my three grade nine classes, maybe one person showed a genuine interest.
>
> I expected that the methods course would have us doing lots of unit plans. Maybe it was naive, but I thought that we would be able to plan everything ahead of time that we would need to teach ... so we could use it later on.
>
> I thought that labs would be a "regular thing" in the methods class in order to learn different ways of doing labs.
>
> My thinking has changed on the amount of time after class that I need to spend with students.

Subcategory: An Old Dilemma is Resolved

The student teacher is aware that he or she has entered the classroom with a question in mind that is now resolved. Example statements are the following:

> Now I know how much fits into an hour, what you can reasonably expect will fit into an hour.
>
> I always wondered what teachers do after school. Now I know. They work with kids, they talk with kids, they plan and have meetings.

Category 2: Awareness of the Acquisition of New Technical Know-How

The student teacher is aware that he or she has acquired new technical skill, ability, or capacity. Example statements are the following:

I know now how to set up a lab and organize the kids to help me.

The idea of constructing an exam was novel to me before. I can put one together now that's a fair test of knowledge, I think.

I've discovered how to pace a lesson and organize my questions logically, so the idea is *developed* not just presented.

I learned to be clearer about my expectations. I learned to be consistent and follow through with kids. I tried to be friendly at first. Big mistake!

It's important to know the students and the background they come from. I'm learning to relate what is taught to their world.

I found that having students take notes was very helpful for discipline. Also, the students had trouble reading the text and taking notes, I wrote on the board and they would copy. (Notetaking moved from a teacher involvement activity to a student involvement activity on this student's construct list.)

I learned how to use questioning to involve students in lessons. I learned to ask open-ended questions and avoided closed-ended questions.

I learned to involve students in demonstrations.

I use overheads in class as a management technique. Every time I use the overhead the class is really quiet.

Category 3: Awareness of New Ways of Categorizing Experience or of Transformations in Categories Used to Describe Experiences

The student teacher is aware of transformations in his or her way of categorizing experiences. Shifts in thinking or the expansion of an idea are noted by the student teachers themselves. The student comments on the ways ideas have changed, been expanded, or been transformed. Example statements are the following.

In my mind, lesson plans are not just an outline for teaching. I see them now as a guide for involving students.

I thought of discipline as something separate from teaching before. It's a *part* of teaching, not something outside of it.

I now see all labs are creative experiences. Before I thought of them as conservative, routine learning events. They generate interest among the students.

I see marking as a daily interactive process. I thought it was just boring administratrivia before.

I've shifted from believing that activities should be "hands on" to believing in a more "traditional" approach. I'm sure my students would throw rocks if I gave them to them.

I've shifted in my view that one "works with teachers" a good amount of the time to believing that I'll work more with my own class, work with students! They are my responsibility.

I've discovered that notetaking by students is much less "student oriented" than I thought. It can be such a mindless activity for them.

I consider tests to be far more useful as a "planning tool" than as a "learning tool." I don't think kids are really interested in how they do on their tests. They are more for me.

I moved from considering "my involvement" in an activity to thinking more about students' involvement because the students like to take part in the demonstrations, for example.

I'm changing from "looking ahead" activities like planning to dealing with misunderstandings as they come up for students, to "doing things now."

I've shifted more towards activities for "students working together" from "me working with the students" because I find that they often ask one another about things first, before they ask me.

I see curriculum having a lot more flexibility. I thought it was very prescriptive before.

I discovered that I'm a science teacher but more than just that. I'm a lunch supervisor, home room teacher, holiday door decorator and dance chaperone.

Category 4: Changes in Self-Awareness. Knowledge of Self and of Self as a Teacher

The student teacher is aware of development in his or her own knowledge of self or self as teacher. Example statements are the following:

I saw myself as a student before—somewhat uninvolved. Now I see myself as a teacher.

I have a much clearer idea of what a teacher is and who students are. When I imagined myself in the classroom before, I pictured myself as silent. I feel more confident now. I have an idea about what being a teacher means.

I became more specific in my understanding of the meaning of flexibility in teaching and what it means to be motivated and active. I was not really thinking of myself as a teacher before.

I learn while I work with other teachers.

I've changed in my sense of confidence because I discovered that the kids like me. They related well to me. I didn't really learn so much about teaching strategies from my teacher. I also found out that I did a lot more content than I realized I did. This really helps me.

I've discovered that I'm really a content oriented person. Even more than I thought before.

I've found that my view of science teaching is different than that held by the profession. I have a more coherent comprehensive approach. Most teachers know very little about science or even how to teach it.

I have more confidence in my ability to deal with discipline.

I am very comfortable phoning up parents and speaking with them.

I'm more practical than idealistic now. Being in the classroom helped me mature, or gave me a slap in the face, I'm not sure which!

I found out that I have got to become more student-centered.

I found that I cannot be as spontaneous as I want to be. In teaching you must stick to the curriculum, it's the burden on your shoulder.

I've done more writing this year than I've ever done in my life. I've realized that it helps you to sort out things.

I think that I'm really into getting the kids involved.

I've become more aware of the differences between students and more aware of the need to be more tolerant and forgiving of students in general.

Category 5: New Dilemmas are Construed for Future Attention

The student teacher is aware that he or she is creating dilemmas to resolve in the future as he or she grows as a teacher. Example statements are the following:

I have only recently begun to realize the importance of a philosophy of teaching and how it will help me to teach.

I found that the curriculum can really tie you down. I'd like to focus on thinking, not just conveying content next round.

I believe that if teachers' needs were catered to more, then the science program would improve. If administrators want change, then they will have to help teachers make that change.

Language and communication skills should be emphasized more for them (students) to apply in everyday life and to enhance comprehension. We have to do more of this.

I feel more comfortable about my knowledge of content but in the next practicum round I want to work on learning how to better work with individuals.

I've come to the realization that education is not actually valued by government or even by some parents and that is something I would like to change.

I've realized more how important it is to understand how students learn. There is a need for concrete activities.

Most of what I'm going to do now will be oriented towards the curriculum. I imagine I'll be collecting lab materials which are curriculum based.

I think that most teachers do not have a sufficient background themselves in Science Technology Societal issues. I'd like to see more professional development opportunities for teachers.

The Five Change Categories

The five change categories delineate not only the basic categories of change that occurred for students, but they are created to summarize the types of changes that students have seen in themselves as they develop a personal-social construction of the teaching role. Helping student teachers to acknowledge these changes using both systematic and informal discussion procedures enhanced the results both by providing focus for the discussions and contributing to the the credibility of the responses. Change category #3 is particularly rich in transformation statements as students demonstrate recognition of their prior views and how these have now changed.

Some Current Realities in the Task of Working Toward Collaborative Reflection in Teacher Education Programs

There are some important realities of the teaching methods courses on which we build our current programs. The first is that not only do teacher educators also attempt to prepare students for the task they will immediately undertake, the practicum experience, but teacher educators also attempt to prepare student teachers for their future role as professional educator. These demands are often seen to be competing for the student teacher's attention. Some teacher educators attempt to ease this dilemma by assisting student teachers to understand the value of possessing an educational philosophy. Teacher educators recognize that if one possesses a clearly articulated philosophy, the actions of teacher have purpose, depth, and meaning. For the most part, however, students experience great concern for survival and the competent completion of several weeks of practicum. Many students believe that we do not adequately address the latter concern in methods courses.

The change categories described hold potential for our helping to bridge the novice's need to survive the practicum while effectively reflecting on one's development as an educator. The change categories and student comments can be shared as case studies with student teachers to show the types of changes that typically occur as students develop an understanding of science teaching. Their use could allow students to understand what might be expected in the practicum setting and would encourage sharing of experiences in large and small group situations. New images and terminology help prepare students to articulate and clarify their own current viewpoints.

A second reality in teacher education programs is the fact that students are often members of a fairly large class. Experiences must be organized for students in large groups. Resources are not usually available to teacher educators for working with students individually or in small groups. The benefits of doing so have been clearly evident in our work in the study. Cooperating teachers and student teachers benefit from working together to clarify and articulate changes that occur during the teacher preparation experience. The research approach in the present study allowed student teachers *themselves* to articulate and affirm changes and transformations in their growth that they might not have been able to otherwise construct. The collaborators have been able to help students create their own personal meanings for experiences as they reflected on them together. In particular the personal constructs generated by the students served as powerful categorizations of experience that were useful in noting shifting and changing in their thinking.

Toward New Approaches and Possibilities

The research study is based on an assumption about personal-social change, that is, that our present interpretations of experience are subject to revision and replacement. Following this assumption, preservice teachers are more likely to accept new viewpoints if they can become aware of the personally meaningful implications of a new way of thinking. To do this, they must be aware of the personal-social construction of the teaching role and that it is a process of growth and change. Their own change can be seen in the context

of the culture of teaching. The effects of this reflection on the initiation into this new reality often requires revision and change in a student's viewpoint. A new view of the learner or approach to a laboratory experience is far more likely to be entertained when student teachers see the benefit of making the change in viewpoint for themselves. Greene (1973) has written: "No matter what degree of objectivity is attained, no matter how universally accepted are the rules, the final decision is up to the individual" (p. 253).

The Social Construction of the Science Teaching Role

The work gives important insight into our understanding of the variety ways that student teacher views and beliefs concerning student teaching change and are transformed in methods courses and practicum experiences. In the study, for example, the category *self-awareness* found a number of students discussing changes in their sense of self-confidence and in their sense of preparedness. The reasons given by student teachers for changes here were often the result of enhanced views of students' sense of ability and preparedness. In discussion, the students noted that this occurred simply from exposure to the student teaching experience. In several cases, students' stated levels of confidence and preparedness changed, in the mind of the student teacher, because of their realization of their own natural abilities. These students recognized in themselves a greater capacity to undertake the tasks of teaching than they realized prior to the experience. There are implications for sharing this information in the initiation of student teachers into the profession. The work suggests that the collaborative role of a caring guide, in the case of the research the research interviewer, is significant in assisting the student to articulate these changes. In the case of actual practice, the cooperating teacher or faculty representative could undertake a similar role. Several suggestions are made for building a collaborative, reflective interview into the teacher education program.

1. We can help student teachers establish some clear benchmarks at the beginning of their experience as a basis for reviewing and comparing their own development and growth. We can encourage them to consider their own development as teachers in the context of others' experience by sharing research findings such as those reported in this study as case studies.
2. We can find new ways to build on those aspects of the student teaching experience that student teachers have found most beneficial in reflection on their growth and change. In the course of this study, novice teachers identified several experiences as contributing positively to their development. Some of these were: viewing videotapes showing various science teaching approaches and techniques; and taking a course on content reading across the curriculum.
3. Teacher educators can effectively develop new approaches for working with collaborating professionals such as cooperating teachers and faculty consultants. Involvement of teachers in this special collaborating role is a valuable professional development opportunity. We can build guidelines for reflective interviews that suggest how collaborators in the field might

share in the uncovering of changes in student teacher thinking to understand growth and change in the student teacher's development together.

An approach that strives to make student teachers aware of changes in their growth also asks that we consider our own growth as educators. Westerhoff (1987) writes:

> We are at our best when we make our lives and our search for meaning available as a resource for another's learning. To be a teacher means more than to be a professional who possesses knowledge and skills. It is to have the courage to enter into a common search with others. (p. 193)

Bolin (1987) comments on the renewing power of the teacher's work with students. He states that it is our role to be creators as well as bearers of meaning. But we must also develop ways of renewing our practice.

> Our work is to empower students to find their own personal meaning. But we cannot do that year after year without attending to our own meaning making and empowerment. (p. 219)

We must go on to sustain renewal. Such renewal is possible with new views of teacher education programs. John Goodlad, whose quote serves to introduce this article, comments that new reform in teacher education requires a "simultaneous renewal" of both teacher preparation programs and the public schools. Our attempts to help preservice teachers grow and change must mean our own renewed vision of what it means to be a teacher. This vision will guide us in the ways that we come to know student teachers and how we help them to know themselves as teachers.

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Appendix A
Item List A
What Teachers Think and Do
Student Teachers' Ideas

1. Marking student papers.
2. Using materials other than the textbook to plan lessons.
3. Doing experiments with the class.
4. Maintaining discipline.
5. Finding out what the kids already know before I teach.
6. Getting students involved with and committed to preserving the environment.
7. Encouraging students to do well.
8. Using analogies to explain ideas.
9. Doing demonstrations.
10. Working together with teachers.
11. Locating the laboratory equipment I need.
12. Having students take notes.
13. Planning lessons.
14. Going on field trips.
15. Lecturing to students.
16. Being flexible. Deviating from the curriculum. Having students pursue topics of their own interest.
17. Dissecting frogs.
18. Learning about the curriculum and curriculum changes.
19. Working with students individually.
20. Helping a student to overcome a difficult experience in his or her personal life.

Appendix B
Item List B
What Teachers Think About and Do
Practicing Teachers' Statements

1. I look for materials and lab equipment. Consider any supply problems that I might have.
2. We are often doing readings. Doing these together as a group or individually, then answering questions from the readings.
3. Having students do library research or smaller reports such as newspaper, magazine research or perhaps a visit to a doctor.

4. As I teach, I move around the class, moving from one group to another or from person to person answering questions and locating equipment for them, or getting them text resources.
5. In the high school I find that I 'wander around in the curriculum a fair amount'—diverge for several periods to work on items of interest, like cold fusion. When I can't continue in class I might meet with them or a small group individually at a prescribed time.
6. I deal with current events and the technological applications of content, like cold fusion when the kids are interested.
7. I try to understand why the kids are there. Like, are they going on in science or are they going into careers right out of high school? Then I know what strikes them/what hits them. That affects their understanding.
8. I consider the wide intellectual range of kids in my class and spend a lot of time trying to encourage everyone to do the best they can.
9. There's a constant need to maintain discipline. I'm constantly moving around the classroom making sure people are on track.
10. I try to give the students a fair amount of feedback on tests and reports.
11. The first thing I do is review the curriculum materials. I check for the organization of things, the content.
12. I look around to see what kinds of activities are available to teach a concept.
13. I review the text. I think, for example, is it too young for the kids? One course I taught was demeaning for the kids, it was too young for them. I look around for alternative materials and change and adapt when necessary.
14. I start where the students are. I try to find out where they are by getting in touch with their current level of understanding.
15. I consider the developmental level of the class as a whole, and what that means, for example, to the non-academic student.
16. In the classroom I think about whether I really need to duplicate material or whether or not I can show an activity on the board instead, or do a demonstration to reduce costs. Too much paper is given out in classrooms.
17. I spend time getting down the rules of discipline in the classroom.
18. I involve the kids in pencil and paper activities. In these, they answer questions about the material we have covered.
19. I have the kids go back and think about what they have done in the previous lessons. Relate the lesson to, for example, the one from a week ago.
20. When giving an introductory lesson, I tell the kids what they are going to be working on rather than keeping it a secret.

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Redefining Research Relationships: Two Heads Are Better Than One

This article describes a process of collaborative research between a primary grade school teacher and a researcher in the context of a case study of teacher planning. The paper explores the dual and interrelated courses of mutual meaning construction in both planning and collaboration during the coparticipants' joint work. The study demonstrates how educational research definitions and hence research options can be broadened and diversified, affording new possibilities to generate knowledge and enrich our understanding of the field.

Teacher planning has traditionally been described as a one-dimensional linear process, whereby the practitioner inserts the "appropriate" teaching skills (prescribed by the curriculum) into objective terms (rationale, behavioral objectives, method, and so on), systematically implementing the skills in the classroom. Within the framework of this model, the teacher is regarded as a "conduit" (Clandinin & Connelly, in press) between the prescribed curriculum and the actual realization of lessons, and not as a professional who is capable of constructing knowledge. However, recent research on the teacher thought domain (Clark & Peterson 1986; Clark & Yinger, 1980) has shifted the focus from the product of planning to the planning process, investigating and uncovering its complexities. The teacher thought domain has accordingly been described as encompassing the constantly interacting teacher's theories and beliefs, teacher planning—the preactive and postactive stages, and teacher's interactive thoughts and decisions (Clark & Peterson, 1986). The practitioner, according to this model, is seen as a central and integral part of the planning process and is no longer viewed solely as a transmitter of knowledge, but as embodying and generating knowledge. Thus the knower and the knowing are perceived to be inherently connected.

Our joint project began as an investigation of a portion of teaching and the teacher thought domain that forms part of the foundation of the classroom context, namely, planning for teaching—the preactive and postactive stages.

Dahlia Beck is a doctoral candidate in the Department of Curriculum and Instruction. Her research interests focus on teacher education and second language instruction.

Kerry Black is a primary school teacher with research interests in school-university collaboration and teacher knowledge.

Each of us was interested in planning from a different perspective. Kerry, the teacher, wanted to find out how she knows what she knows about teaching and what makes her plan to teach the ways she does. She felt that teacher knowledge could be tapped by observing a teacher plan and discussing the process, and product, with another. The researcher, Dahlia, wanted to focus on the theoretical underpinnings of teacher knowledge, on how teachers generate and use their knowledge, as manifested in their planning to teach. As collaborating partners we were hoping to gain insight into planning and practice together. Because each of us was approaching the study with a different personal and experiential narrative, we felt that a mutually constructed vision afforded new possibilities that, though we could not anticipate it, we were anxious to explore.

Kerry has taught in the public school system, at the preschool and elementary level, for 12 years and brought her ongoing classroom experience, and queries thereon, to the investigation. She was about to try new math and reading programs with her students and felt the need for feedback, for exchanging ideas with another practitioner, with someone who would have a different, preferably critical, perspective on her ideas and practice. Kerry was also doing graduate work in teacher education. Dahlia, who taught English as a foreign language for 15 years at the junior- and senior-high school levels, as well as the tertiary level, is a full-time graduate student majoring in second-language teacher education. She focuses her scholastic energy on researching the theoretical and practical aspects of the concept of teaching and on the relationship between teacher practice and teacher knowledge.

We met in a graduate course that centered on teacher practice as explained and made sense of by teachers through their stories and metaphors, a framework developed by Clandinin (1986, 1990), Clandinin and Connelly (1986, 1988), and Connelly and Clandinin (1988, 1989) to explore teacher knowledge. Through class discussions we discovered our mutual interest in the planning process, which led us to consider working on a joint project, thinking that collaboration afforded a possibility to study planning from multiple perspectives simultaneously, something neither of us had done before.

Following a mutual declaration of intent, we were faced with an ethical issue: Because Kerry is a practicing teacher with the Calgary Board of Education, and as we intended to voice our findings publicly, Kerry's anonymity had to be preserved to fit within the ethical guidelines for university research. Despite our understanding that the anonymity was a protection measure, we were dissatisfied with the fact that should a published paper result from our joint work, only Dahlia's real name could appear on it while Kerry's would be concealed behind a pseudonym. That necessary silencing, we felt, violated the true collaborative nature of our work.

Although inexperienced with collaborating on a research project, we nevertheless knew that we wanted the study itself to be a form of dialogue between us, where each would have as much a say as the other on each one's work and on each one's interpretations of the joint endeavor. The conversation approach we decided to adopt is consonant with Yinger's (1987), who elaborately uses conversation as a metaphor for practice. "First," he main-

tains, "conversation refers to the means by which social practices are conducted ... Second, the conversational metaphor expresses the multifaceted, give-and-take nature of human thought." And third, as he examines the etymology of conversation, Yinger argues that it "involves an entering into and living with a context and its participants" (p. 11). As such, he regards conversation as a means of interaction and a way of thinking, as a type of relationship with one's surrounding. The conversation metaphor, we felt, would help ensure fairness and authenticity in the researcher's representation of the teacher's work, as well as aid in telling the story of the teacher and her work in a light that was compatible with her own image of herself. The phenomenology of the teacher, that is, the meanings of planning for her, from her point of view and frame of reference, we thought, could be best captured via conversation. For us that was the essence of the *co-labor* notion.

To enhance the oral dialogue we had agreed to keep journals where we would relate to our joint project and read them during the period of our work together. Kerry had had experience with journal keeping, a process she found to be a powerful reflective tool. Dahlia had none. We fell back on Kerry's experience, as well as on Connelly and Clandinin (1988) for whom journals are "ongoing records of practices and reflections on those practices" (pp. 34-35). Indeed, the journal served as a useful refresher of interpretations and deliberations that captured, at the time of writing, the truths of the moment concerning the day-to-dayness of classroom events and our joint work, assisting us, when studied together with the grounded data later on, in further understanding the process under investigation. The journal proved to be a powerful inquiry device, providing us an additional lens through which the data could be viewed (triangulation), its forte being its immediacy and authenticity. As there were intervals between our sessions, each of us felt it necessary to record those things that came to mind and happened between meetings as a means of memory. This became a link, a form of reflection with the self, and each other. The journal entries recorded the perpetual dilemmas of daily practice that are part of the detail of lived experiences. These day-to-day nuances formed a meaningful way to examine practice, planning, our relationship, and roles in the research.

How many times should we meet? we wondered, and decided tentatively to meet regularly for a period of at least two weeks, or alternatively until we felt we had covered enough ground to warrant a halt in data collection. The data, then, were going to lead us rather than vice versa. Following the latter route, we met seven times during a three-week period for working sessions that lasted one to three hours each, all of which were recorded and later transcribed. We had agreed that Dahlia would analyze and interpret the transcribed data and write a narrative account of them, by which was meant, following Connelly and Clandinin (1988, 1990), that she would relate how the teacher and the researcher, separately and together, made meaning of their experience. She would be the person who, according to Connelly and Clandinin (1990), "is at once ... engaged in living, telling, retelling and reliving stories," thus "setting and resetting temporal and social/cultural horizons" (p. 8). Dahlia would then hand the account over to Kerry who would respond

to it in writing. This process was to continue until both of us were satisfied with the representations in the mutual account, in which the teacher's and the researcher's narratives would become, in part, "a shared narrative construction and reconstruction through the inquiry" (p. 8).

We adhered to the above plan. However, following the spirit of conversation, the narrative accounts that we exchanged were in letter form, which was found to be, as Connelly and Clandinin (1988) point out, "valuable in aiding reflection [in the] ongoing dialogue between two teachers" (p. 48). A letter entails a mutual obligation and encapsulates the collaborative stance we chose to adopt. A letter is not descriptive and public oriented. It is directed to a particular person whose genuine reaction to the content the writer seeks, for it concerns the writer and addressee intimately, and the warrants and truths established in it have to be confirmed, validated, or at least addressed. A letter's asset, then, lies also in the response it triggers.

The research project began when Kerry was about to start planning and teaching new units; we thought that she would do the planning and Dahlia would observe her doing it. Kerry was intrigued by the notion of being observed while planning. "What would there be to see? My planning is largely mental, and the written plans would have already been processed," she contemplated aloud. Kerry pointed out at our very first meeting, before the collection of data began, that she had a vision of where she was heading with her students before she actually wrote anything down on paper. Dahlia, on the other hand, expected Kerry to progress in her planning in a traditional, linear fashion, assuming she would do it all, that is, have a finished product, prior to implementation. But Kerry did not plan like that. In fact, Dahlia's vision ran contrary to Kerry's understanding and conceptualization of planning. The relationship between planning and teaching for Kerry is dialectic, whereby each part instructs and builds on the other. Kerry's pre- and postactive plans depend largely on the interactive stage. For her, the preactive stage is a vision of a plan. However, it does not exist without the students who give the plan life, meaning, and direction at the interactive phase. The students' responses to the lesson determine the next day's lesson, and so on, until the goal set by the original vision is realized. Thus the students connect vision and reality into an experiential whole.

Thus Kerry's conceptualization and execution of planning was a major force in shaping the texture of our conversation. Instead of the anticipated long (teacher) planning silences, interrupted occasionally by (researcher) questions, our joint sessions became intense and animated by Kerry's stories of, and Dahlia's queries about, that day's interactive phase that illuminated and guided the next step of Kerry's planning. In other words, the concrete teaching plans, as opposed to the vision and the mental plans, were generated parallel to or after the interactive phase, bearing the latter in mind and responding to it, as well as to the reasoning and inquiry processes that permeated our joint sessions. To us, this was an instance of Schön's (1983) knowledge-in-action that we came to view as a distinct kind of knowledge, different from theoretical knowledge, yet in constant interaction with it.

Our respective roles in the joint process, apart from the labels "teacher," "researcher," and "collaborators," was a terrain to be broken through and

carved as we proceeded, together and individually. For Kerry, who had co- and team-taught, Dahlia's presence was a treat, for she had a person with whom she could play the math games she hoped to use with her class. She was looking forward to Dahlia's asking questions, which, Kerry felt, might help her clarify her thoughts and her rationale as pertaining to planning. Dahlia, who had storied her role as the researcher along traditional lines, perhaps because she was in the grip of a myth regarding researcher/informant roles, thought she was going to be an observer-interviewer, that is, Kerry, the teacher, would be working on her planning and thinking aloud (for the tape-recorder), and Dahlia, in order to minimize interference and background noise, would keep silent and jot down descriptions of the circumstances. Later she would interview Kerry about her planning. The clarity of this vision became blurred as soon as the first working session began. Rather than one interviewing another in a neat, orderly fashion, we conversed about our practices, conducting animated discussions about issues related to Kerry's planning that arose spontaneously during the planning sessions. It was messy. Thus Dahlia's brief role as an observer-interviewer ended and she became a participant-observer, a role that was also short-lived. As our relationship developed through our intense encounters, writing journals, and exchanging letters, the label participant-observer seemed inadequate, for it did not capture the dynamics of our alliance. The sociologist Reinharz and her colleagues (Belenky, Clinchy, Goldberger, & Tarule, 1986) came to our aid with a phrase they coined—temporary affiliation—which they feel captures the human mutuality that characterizes the relationship between researchers and informants. Hence we became temporary affiliates.

In retrospect we have come to regard our conversation/research as a spiral web comprising experiences and discourses that together, as they encounter and interact, constitute a meaningful whole. By experiences and discourses we refer, for example, to Kerry's teaching, the stories about it, and about the students that Dahlia experienced vicariously; the journals that we composed, exchanged, and responded to; our recorded conversations and the following narrative accounts; related readings and impressions thereof that we exchanged; and our university course work. We shared our individual discourses, which were simultaneously modified and recast by that sharing, thus expanding the web constantly. The discourses and lived experiences formed and shaped our work and relationship; they in turn fashioned and framed our individual and joint experiences and discourses.

With hindsight we now realize that both of us were wary at the beginning of the joint research, not quite knowing if and how the project would work out, especially as we had no firm guidelines to follow. We carved and forged new territory and language. Yet we felt that a productive research study would depend greatly on the mindful relationship we formed. Our common goal and genuine mutual interests bonded us and shaped the nonthreatening circumstances that evolved, enabling us to tackle our project. Once this process took off, it flowed vigorously. We should emphasize that this process very much resembles that of Kerry's planning. That is to say, we entered the partnership with visions and mental plans that, along the way, encountered other realities, other experiences and discourses, that had to be taken into

account. These multiple encounters affected our work and knowledge, specifically the personal practical knowledge (Clandinin, 1986) that we, the practitioner and the researcher, embody and employ as we practice our respective crafts and as we collaborate. Similarly, Kerry's planning is the outcome of multiple encounters of a variety of elements that carve and fashion it. During this dynamic process, as theory and practice come in contact, the original visions and mental plans are transformed and new ones, novel relationships and stories, and fresh narratives are constructed.

Collaboration, we discovered, is a powerful and instrumental device in uncovering and tackling individual values and beliefs, biases, and preconceived notions. As Peshkin (1988) observes, "Knowingly or not, I think we all are ... in the subjective underbrush of our own research experience" (p. 20). In collaborative circumstances, where each party can act as a mirror and a challenger, the subjective underbrush can be carefully examined through inquiry, reflection, and critical thinking, thereby generating knowledge.

The collaboration experience and its investigation, as we understand it, can bring about the expansion of method and forms of representation that, according to Eisner (1988), are all partial, and "because they are partial, they limit, as well as illuminate what through them we are able to experience." Through the expansion of method, in our case—collaboration in educational research—"our politics," Eisner maintains, "will become a liberating force for both understanding and enhancing the educational process" (pp. 19-20).

The joint endeavor is our statement about the optative relationship between educational practice and research. Traditionally, the relationship is top down; that is, the teacher and researcher are distant and separated hierarchically and view each other, respectively, as a receptacle to be filled (who will, in turn, transfer the "merchandise" to the students) and an expert, who embodies and delivers the necessary "goods." Accordingly, the researcher has the knowledge, and hence the power, while the teacher, who is a mere technical object in the chain of knowledge transfer (education), is not endowed with reflecting and reasoning capacities, nor is he or she viewed as an autonomous professional who embodies and generates knowledge. Such a stance invalidates and silences the teacher, disfranchising his or her knowledge. It also represents knowledge as an objective, complete, and remote entity that is intrinsically impenetrable, hence static and conservative. Our conceptualization of the teacher-researcher liaison is similar to Polanyi's (1964) concept of indwelling that refers to a sharing and satisfying of intellectual and convivial passion by two equals who "must belong to each other by participating in a reverence for a common superior knowledge" (p. 378). Indwelling characterizes the interrelationship between several aspects on which, Polanyi argues, cultural and ritual fellowship is based. They include the sharing of convictions and of a fellowship and cooperation (p. 212). Indwelling recapitulates our joint work in which the teacher and researcher were equal partners trying to make sense of, and converge on, the area of inquiry together from multiple perspectives.

The mutual quality of our associated research stems from, and is indicative of, a moral stand to which we are committed, of which a central element is communicative competence. It is an instance of Connelly and Clandinin's

(1990) narrative as a research method that involves sharing, equality, caring, and mutual purpose and intention. Collaboration, as captured by the narrative stance toward educational research, empowers the partners and helps them gain a voice that Britzman (1989), for example, regards as a central construct in curriculum, teaching, and educational research. "Restoring voice requires acknowledging relationships: the individual's relationship to the meaning of her/his experience ... and the individual's relationship to others," she argues (p. 146).

We understand the notions of collaboration, voice, and communicative competence as interpreted and realized in our research to be compatible with the principles underlying democracy. Democracy, in its ideal conceptualization, is a cooperative achievement of participation, dialogue, and creation, oriented to reaching shared understandings. Yet, as Habermas (1984) points out, coming to an understanding is not "an empirical event that causes de facto agreement; it is a process of *mutually convincing one another* in which the actions of participants are coordinated on the basis of motivation by reasons" (our emphasis, p. 392). A communicatively achieved agreement rests on common convictions and has a rational basis. It is a cooperative process of interpretation in which, Habermas contends, "no participant has a monopoly on correct interpretation" (p. 392). Moreover, resonating with Polanyi's (1964) notion of indwelling and Clandinin's (1989) narrative, Habermas (1984) argues that the communicative and interpretive task for all parties "consists in incorporating the other's interpretation of the situation into one's own in such a way that in the revised version 'his' external world and 'my' world can—against the background of 'our' lifeworld—be relativized in relation to 'the' world, and the divergent situation definitions can be brought to coincide sufficiently" (p. 100). Similarly, in the interpretive process of the narrative, "meanings are not fixed or given," Belsey (1980) claims, "but are released" (p. 20) negotiated and constructed.

A variety of discourses were brought together in our research, by which new and more coherent discourses were produced. Collaboration via the conversation metaphor as we experienced it enhances variety. Hence the resulting narrative, following Belsey (1980), "is not restricted to a single, harmonious and authoritative interpretation. Instead it becomes *plural* ... an object of work to produce meaning" (p. 104). Furthermore, the new discourse that emerges constitutes new knowledge, thus acting as a generative theory (Tom, 1984), adding to our individual and collective generative metaphors and repertoire (Schön 1983).

Collaboration between teacher and researcher as we perceive it promotes engagement in critical thinking and practice, thus constructing knowledge and cultivating the participants' capacity to structure and appropriate their knowledge and understandings, as well as to develop a language with which to do so. We regard these processes as conducive to change, allowing for pedagogic possibilities.

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Reflections on a Collaborative School-Based Teacher Education Project

A shared concern for teacher education brought together staff from the University of Alberta, Faculty of Education and Edmonton school principals and teachers who designed and implemented an in-school preparation course for university students. Preplanning between staff from three schools and a group of university professors resulted in the placement of 68 undergraduate third-year education students into classroom experiences. The students were engaged in two university curriculum and instruction courses of nine hours per week. One course combined social studies, music, and language arts and the other, movement, art, math, and science. This article interprets student journals and interviews with students, school staff, and professors in order to illuminate the experience of the participants. The collaborative nature of the experience, the interactions, and the reflection resulting from this university-school program are discussed. Further examination of the commitment to such an undertaking, the time required for collaborative staff procedures, and reflection time between students and professionals are considered.

Introduction

During September through December 1987 faculty members from the Department of Elementary Education at the University of Alberta and principals and teachers from three elementary schools in the Edmonton Public School system met to plan a collaborative teacher education program. They held a mutual interest in exploring a different vision for university teacher education courses. Through sharing experience and perspectives, they searched for the possibilities to be found in centering the teacher education courses more within elementary school sites. The purpose was to design jointly a program to provide more opportunity for students to learn teaching by teaching and reflection. Teachers and professors collaborated in designing and carrying out such a reconceived approach to teacher education.

This project was to involve 68 undergraduate university Bachelor of Education students in school classroom experiences for a half-day each week, which would coincide with their module courses in music, language arts, and

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social studies methods or math, science, art, and movement education methods. Assignments in these courses would include student planning, teaching, and evaluating activities undertaken with teachers and children in a school setting. Opportunities for observation, assisting in the teacher's lessons, and teaching their own lessons would be provided. Students' journals would be used to record their observations and reflections on the work with children in all of these situations. To establish a nonintimidating exposure to teaching and a free interaction between participants, student journals would not be graded. To promote discussion, reflection, and to provide emotional support, pairs or small groups of students would work together on assignments. The plans thus developed included on-campus and in-school experiences as a nine-credit course (normally nine hours per week).

The Roots of the Problem

Teacher educators are challenged by studies such as Fuller and Bown (1975), Feiman-Nemser and Floden (1986) to understand how beginning teachers think and act. These studies indicate that teachers' early experience as pupils influence their expectations about teaching and also their teaching behavior. Those entering teacher preparation have already had 12 or so years of interactions with experienced teachers, and this has given them strong messages about what teachers do. Feiman-Nemser and Floden (1986) describe the socializing power of the university as weak compared with the competing norms of schools and refer to Zeichner and Tabachnick (1981) who state that the effects of university socialization are often "washed out" by the strong influence of the beginning teachers' own schooling experience (p. 7).

Further research has pointed to the continuing nature of socialization into teaching perspectives. Like Fuller and Bown, Craig (1984) came to the realization that teacher development is a continual process of preservice, beginning teaching, and inservice, following steps or stages in one inclusive continuum. "Currently they are recognized more and more as developmental, integral, and complementary parts of a rational whole" (Greenberg in Craig, 1984, p. 259).

Other studies suggest that teachers' perspectives are influenced by preservice education, inservice education, and informal peer socializing. Lacey (1977) found that some teachers conformed to the new expectations and practices; others, not convinced that the practices were for the best, still complied, while some beginning teachers consciously tried to effect change or reform. Fuller and Bown (1975) suggest that as education students move from methods courses to student teaching they "change from a humanistic to a custodial approach, stressing bureaucratic order and control.... These changes may reflect a shift during student teaching toward the prevailing ethos of the public school" (pp. 41-42). Tabachnick (1980) reports a study of interns who changed from wanting warm relationships with students to desiring cooler, more distant relationships. He concludes that "public school staffs have an interest in legitimating their actions and keeping things the way they are" (p. 133). Iannacconne's earlier research (1963) using interns' log books led to much the same conclusion. These studies suggest the need to

examine the ways teachers' and students' perspectives change as they interact with university and school norms and expectations.

Newberry (1979) found that beginning teachers were usually influenced by teachers who taught the same grade level and had similar teaching styles. Further, Tabachnick and Zeichner (1985) suggest that perspectives developed during preservice teacher education will be influenced by peer socializing efforts during the first year of teaching and will only persist in individuals who have a mixture of skill in building support from parents and students, and their own persistence. These researchers "support an interactive view of teacher socialization in which individual intent and institutional constraint both play a role in affecting a beginning teacher's entry into teaching role" (p. 10).

The need for collaboration of teachers and professors in planning teacher education programs emerged from two studies during 1986-1987 of recent graduates of the BEd program in elementary education at the University of Alberta. Miklos, Green, and Conklin (1987) found that most graduates from the teacher education programs at universities in Edmonton, Calgary, and Lethbridge "were at least mildly dissatisfied with the extent to which the program had met their expectations" (p. 136). Concerns focused on lack of emphasis on teaching skills (p. 147), too much emphasis on theory (p. 149), redundancy (p. 151), inadequate practicum (p. 151), and poor teaching models (p. 154). Teacher graduates interviewed suggested: "Whenever possible, I think that what is being taught should be pulled into real-life situations. As much as possible, get the students in the university in contact with the kids" (p. 160). The in-school experience of practice was seen as of most value, as "teachers rated this as the most important component of their preservice preparation program by a substantial margin" (p. 180), and asked that courses "be made more practical and relevant to the work of a teacher and less general and conceptual" (p. 161). This could be facilitated by "holding seminar-type classes with experienced teachers" (p. 162).

Blakey et al. (1989) used case studies of 14 recent University of Alberta graduates to examine the factors affecting teacher decision making and the perspective underlying those decisions. Again, teachers reported their BEd university based classes "ranked far behind the practicum (student teaching) component as the most valuable aspect of undergraduate study" (p. 21). One teacher stated, "I think I learned more in my practicum than I've learned in any of those topics or subjects or courses. You learn so much by just getting the practical experience" (p. 32). Recommendations suggested that the teacher education program include: "holding classes in public schools for several weeks to develop a feel for life in the school; providing in-class experiences with children so instructor and students experience working with children.... and teams of university professors and practicing teachers should be organized to offer courses in school settings" (p. 111). Such plans could help to meet the needs of teachers who stated, "I would have learned more by being out in different schools and kindergartens and ... just watching kids.... More university classes should be in the schools. Like, really find out what's happening. So I would say a lot more time [should be] spent in school" (p. 112). Blakey et al. felt that the connection between theory and practice

can only be made "when there is a close connection in time between the two" (p. 112). Courses that had some connected school experience and the opportunity to relate theory to specific children seemed to make the ideas more meaningful and increase the likelihood of later application in teaching.

The present study seeks to understand how preservice teacher educators may assist students in consciously evolving a teaching perspective through concurrent university courses and school experiences.

The Development of the Project

In September 1987, several University of Alberta professors began meeting with principals from three elementary schools in Edmonton to explore possible ways of building a team of teachers, principals, professors, and elementary education students who would develop a collaborative school-based teacher education program. The result of three months of planning was the placement of 68 education students in three schools for a half-day each week during their curriculum and instruction module course. Teachers and undergraduates would plan activities for children, try out methods course theories, and the students would reflect on those experiences in journal writing. For example, in their language arts course, students studied the use of drama, including an all-day workshop held in one of the schools. Several of the cooperating teachers took part in a Saturday workshop and later worked with students who tried out variations in the use of role playing, dramatizing, and tableaux in their classrooms. Students then used their journals to reflect on this classroom experience and the language theory they had learned.

In movement education, students worked in small groups assigned to one classroom. Together with their professor they planned and taught their class activities in gymnastics, games, and dance. Each student group followed their children from gymnasium to classroom where varied teaching responsibilities were provided to them by the class teacher. Over time, teaching staff and students made more specific requests and offers to undertake responsibilities such as planning a class orienteering experience, assisting in library research and activity centres. Throughout the in-school experience with the children, students reflected on their personal as well as group teaching and the interactions with the class. Journal entries provided the major data source for this study. Student voices were given the dominant place in the descriptions, analyses, and assessments that form this report.

Major Themes Emerging from the Study

The findings of the research team have been compiled from the journals and interviews undertaken by and with the undergraduate students and the interviews with the teachers and professors engaged in the collaborative school-based teacher education project underway during the January to April 1988 university term. The results are summarized under the three themes that emerged: (a) collaboration and commitment, (b) interaction, and (c) reflection. In each theme emphasis is placed on the voices of the students. The voices of the teachers and professors are also heard along with the interpretation of the researcher-participants.

Collaboration and Commitment

The "we" attitude. Students entered the school scene in groups of two, four, or seven depending on the number of staff members participating and the curriculum and instruction module involved. Recognition of coinvolvement with peers permeated much of students' writing. "Everyone in our group has a part ... This was the first time we had a chance to actually preplan together." "We built a trust relationship." "we joined in." "Our team worked well together." From these comments it appears that students realized a sense of security and support through peer involvement.

University professors did not, however, express the same feeling of togetherness. Commitment to the team was inhibited due to teaching responsibilities at the university at the same time. A stronger sense of interconnectedness was desired and the time required to establish it was unavailable.

Teachers' interviews recognized and appreciated teamwork among the university students and between students and children. As a result of insuffient opportunity to collaborate with professors, some teachers were unclear about program expectations and so requested more communication prior to the onset of the following year's program.

Responsibility. An examination of this theme occurred in three contexts: (a) student teacher responsibility for pupils, (b) professor responsibility for student teachers, and (c) teachers' responsibility for student teachers. Journals also indicated that students came to understand a fourth context of responsibility related to working with their peers. Working with children from five to 12 years of age made students aware of values inherent in some activities, and the problems and demands relating to their combined responsibility for organization. "Smaller children watched the bigger children so it was a good idea to have mixed ages." "We scratched our dance as set out and tried a new version. We used a full circle and then it didn't matter how many were in the group." "Children generally know their limits and set their own parameters."

Professors were reminded of their responsibility to provide students with essential information needed before entrance to the school setting. An even split of responsibility was suggested to allow for this input during the on-campus university coursework and to interweave it into the in-school experience from the onset of courses. Teachers' responsibility for the presentations of practical applications in exchange visits and joint lectures in the university setting or in the school were suggested to enrich and dovetail student experiences. The feasibility of implementing these suggestions rests on shared commitment and responsible attitudes in staff members at university and in schools. Shared responsibility for the integration of subjects and presentation of lectures has not been extensively developed. One teacher expressed the need for all school staff to be present at planning meetings and to feel some responsibility for evaluation from the school's perspective. In their turn, the teacher educators ask, "Are we able to respond in our own institution to ideas of integration and to combining teaching efforts in a responsible way or can such ideas evolve more readily in a university-school atmosphere?"

Resource sharing. Undergraduates perceived most teachers as models, as fountains of resources and ideas, and as mentors who would promote realiza-

tion of their hopes and aspirations. "This teacher has so much knowledge and ideas for us to learn. She said 'Just remember you and I are the same, just I've been at this longer!' Her positive attitude is contagious." "The teacher's attitude was extremely positive not only about us but about the class in general. She was so cooperative and made us feel we could do as much or little in teaching as we felt confident to do." The need for practical ideas was clear in student journals. They appreciated the generous sharing of teachers, much as Fuller and Bown (1975) predicted for this survival stage of teacher development.

Problems and hindrances to collaboration. Sharing, making commitments, and developing co-ownership among project participants exposed numerous hurdles. The school team of principal and teachers established itself throughout the fall term. By the end of the term university staff members were working in the school team and had time to develop understanding of goals and individual roles in the project. Despite this preliminary work together and the fact that staff members participated in the program by choice, one student noted: "If the school experience is to be continued, the teachers involved should be sure they want students in their classrooms. Lack of communication and cooperation made this all so *frustrating* and difficult!"

The collaboration of school and university staff allowed a professional exchange that was stimulating to those involved, but students in one module perceived a need for clarification of expectations. "The teacher and professor should have met together to discuss what was expected from the learning centres." Professors and teachers need to coordinate the content of university module courses with school agendas, and to synchronize perspectives and expectations. Journal entries comment on the "lack of correspondence between the professors and the teachers in schools." The scheduling of assignments within the module was a concern raised by both students and teachers. "Since centres were set up late in the program there was little time to observe the centres in action."

Collaboration and subject integration in the program failed to meet certain student expectations. "In spite of the attempts of those who set up this course, I felt the various subject areas were still quite fragmented from each other." "All three courses should tie the worlds of the school and university together with all professors listening to our experiences and our grievances." Clearly, it is easier to choose participation in collaboration than to commit adequate time and to give priority to it.

Benefits. The reflections of the students revealed moments of illumination, confidence, and pride in themselves and their abilities to meet children's needs and to begin to teach. The shared experience with school staff and children often made them feel a sense of belonging that they also sensed in the children. "The children began to encourage one another. A team spirit really developed."

To take further advantage of the rapport that had been established, one student stated, "I would like to work with the teacher for my third year teaching. The first week would not have to be spent getting to know a new teacher and a new school. This valuable time could be spent getting to know

the children. Her teaching methods are ones that I would like to incorporate into my life." The fruitful collaboration had begun and future time together was desirable.

Interaction

Discussion in this section focuses on interactions among individuals who participated in the collaborative in-school program. The observed effects of those interactions are indicated in student journals and interviews that were conducted with undergraduate students, school staff teams, and professors.

Phases of student socialization. Observation and dialogue, documented by university students in their journals, yielded certain insights regarding socialization into the role of the teacher in its initial phase. "We went to the school today, my partner and I, to get a preview of the environment we will be exposed to and to meet the teachers we will be working with. I'm extremely nervous. Will I ever make it as a teacher?"

Anticipation was followed by a concern about the reception by the resident teacher and students. A warm welcome appeared to ease initial anxiety considerably. "The teacher did everything she could to put us at ease. This made us relax somewhat."

What appeared in this study as a third socialization phase was the students' growth of confidence regarding ability to work effectively with children to promote learning. Teachers facilitated this growth of confidence by providing opportunities to work with individual and small groups of children on learning assignments. Students observed that "I circulated around the class. One child was especially struggling and I helped him and encouraged him through the problems ... the method was effective because after the first few problems, he was able to answer the questions on his own.... This is very encouraging."

Interactions with small groups of children helped to prepare university students for a fourth phase that involved teaching the class as a whole; however, nerves hit again according to student reports. "Even though this isn't student teaching, I'm really nervous about teaching the class." Team teaching involving two or more university students in the planning and presentation of lessons seemed to ease the anxiety for many. "It's great to work with a partner in presenting a lesson; if one person forgets certain details or students' names, the other person pitches in."

An evaluational phase followed. Students themselves intuited what worked instructionally and what did not. "I saw many things in our presentation that were effective and other things we could have improved upon." A number of teachers were helpful to students in assisting them to learn how they could improve their presentations not only in hindsight, but also as students planned their presentations: "Our coop teacher gave us some excellent ideas and guidelines for our language centers."

Students valued participation in the collaboration program for the direct and long-term benefits that they perceived. "Seeing the classroom relations as a participant-observer is directly related to all my other courses." "Through planning a lesson, evaluating the learning center and teaching a small group of students we are getting a feel for our third year practicums."

"Because we now have some experience I'm not so afraid of next year's practicum."

In the collaboration context, second-year education students revealed growth in each of Fuller's stages of professional development (Fuller & Bown, 1975).

1. Preoccupation with their own adequacy: "My problem seems to be a lack of confidence mainly because of lack of experience. It all seemed to come naturally once I started teaching the class."
2. Mastery of the teaching task: "Since we know the evaluations from the times before, every lesson becomes smoother and more polished." "I can see what we need to do to improve the lesson, and what events were beyond our control."
3. Impact on pupils: "Children must see a purpose in what they're doing for them to consider it worthwhile." "Our activity was not challenging enough for the students. They were bored and because of this they did not do what they were asked." Continuous journal reflection on the teaching act showed the concern of undergraduates for their personal relationships with children and with the teachers.

University students and children. Students experienced empathy for the children. "Watching some of the children, I can't believe how they diddle around, but I'm sure I was the same!" They now viewed childhood through different lenses as was stated, "The activity gave us a lot of insight into what it's like to be an 8-year-old." Viewing childhood as a prospective teacher, approximately 10 years after their own experiences as an elementary student, was viewing foreign territory.

What appeared to impress students predominantly in their interaction with children were differences among members of the same class, as some stated, "Students ranged from a very high level of scholastic ability and attentiveness to a very low and disinterested attitude. The less interested students did little to participate." "What struck me most were the differences between children not only in their ability level, but in their level of self-confidence."

Students valued the children as people. They were elated when children invited them to join in their activities. "I felt honored. I enjoyed playing the concentration game with them because we got to know one another better. We began to feel friendly and comfortable together." Many novices in our program revealed that, like Lortie's teacher (Lortie, 1975), their essential reward for effort exerted came from the children. "All the work paid off when I saw how eager the children were to participate in the learning center." Some wrote of sharing the joy of work well done with the younger students. "It felt good to work on an activity that was our own creation—it made me feel worthwhile. The activity was enjoyable for the students and us." "It's great to see bonds forming between the students and the kids." In almost all cases university students established rapport with children in classrooms early in the program.

Peer interaction. Among participating university students, peer interaction enhanced program benefits for the majority of students. They experienced failure together. "We all spent too much time verbally giving instruc-

tions." They derived support and a sense of belonging from pairing. "Choosing a partner brought a sense of belonging in a group of total strangers."

Some student liaisons experienced stress due to lack of interpersonal sensitivity. "My partner monopolized time with the children and teacher. When it comes to preparation she's very irresponsible—I have to do all the work." Wounding and resentment developed in such circumstances. Some student groups found that it was not an easy job to work effectively together. The project placed them in interactive situations demanding flexibility and adaptability that was difficult for some students. "We had problems making up the lesson plan as my partner and I had many different ideas and could not incorporate them all. I found it difficult to teach the lesson as I found there was not enough cooperation."

Problems/hindrances to interaction. Concerns centered on the lack of adequate preparation of novices. These students were not adequately equipped to analyze their interactions and observations of student and teacher behaviors. Their need for information regarding peer socialization in classrooms, effects of moral development, early development of self-concept, and the influence of self-conceptions on learning was evident in journal discussions of observational experiences. University students and teachers observed that instruction in lesson planning and presentation was also necessary prior to students' participation in the in-school program.

Where negative evaluations were reported, the positive effect of interaction was also observed in the reflection it stimulated. The program was designed to further the growth of insight concerning what types of interaction would benefit both schools and the university. Participants reflected on their own involvement and that of others as they evaluated the effects of the program.

Reflection

From the very first planning of the collaborative school-based teacher education program, a key principal was that "Reflection is essential to growth." In lay terms, reflection means meditation, contemplation, mental consideration, stemming from the Latin root *reflectere*, re + flectere (to bend). The rebending through mental consideration suggests that we consciously reshape ideas and experiences, reconstructing and rebending in our minds the received ideas to explore new possibilities, new approaches to problems. Schön, in *Educating the Reflective Practitioner* (1987), seems to have this recasting meaning in mind as he discusses learning a profession by practicing it while "reflecting-in-action." Schön suggests that professional education needs to place neophytes in field work, assuming that they encounter the unexpected and reflect on it. "Reflection-in-action has a critical function, questioning the assumptional structure of knowing-in-action. We think critically about the thinking that got us into this fix or opportunity; and we may, in the process, restructure ... ways of framing problems" (p. 28).

This need for students to reflect-in-action demanded "a willingness to critically reflect on 'What is?' and to consider 'What could be?'" and was explicitly stated in the program goals agreed to by principals and professors at a meeting November 5, 1987. To promote reflection, students were asked

to write in journals after each school visit. An examination of journal entries and later interviews sheds some light on how students were stimulated to reflect-in-action by experiences with the teacher-professor-teaching experience triad.

Observation. One of the triggers to reflection was the opportunity to be in a school and regularly observe an experienced teacher working with children. Even the initial view of the school structure contrasted with earlier school experiences to stimulate reflection on the impact of the physical environment on children. "Arrived at the school and was immediately impressed with the openness and inviting atmosphere of the structure." The schools involved are designed to provide numerous nooks and crannies, inviting teachers to break whole class groups up into smaller groups, challenging children to accept the responsibility of independence. This was a new experience for most students, and forced reframing of traditional conceptions of using space to change teacher-student relationships.

This reflection was extended by observation in classrooms as students saw new ways of working with children. "I was amazed at how fast the pace of the afternoon was. 'Lessons' seemed to be so short compared to when I was a kid. I expected 'lessons' to be one half hour long, but each activity was only 10-20 minutes. There was a lot of movement in the classroom." What was commonplace for the experienced teacher was a surprise to the observant novice and forced some reframing of conceptions of children.

Experiencing teaching. Although observation provided students the opportunity and perhaps the leisure to reflect, it was the stimulus of experiencing teaching that resulted in the most journal reflection. As students encountered problems, they needed to reflect-in-action: "How can I get the kids to slow down and absorb the material rather than passively reading? I want them to think about and analyze or reflect on what they have just done." "Our main problem is lack of control and getting and keeping children's attention when we are giving directions." Schön (1987) seems to be correct in expecting that problems in teaching practice would stimulate student teachers' reflection.

Teachers' roles in reflection. Although students' journal entries indicate that they can reflect on their experience at home alone, there were also frequent comments on reflection in conversation with their teachers or as a result of things teachers had said or done. Sometimes students had developed clear goals of their own and found that they did not agree with those of the teacher. "I am now beginning to see my future goals and approaches to teaching in comparison with those of the teacher and find that they clash in some respects," or again, "I find it hard to see any substantial interaction between the teacher and students since her method is quite rigid and structured." More frequently, however, students noted how much they were learning from the teacher as they talked over problems and ideas with them—closer to Schön's reflection-in-action.

Professors' roles in reflection. For the combination of experience and reflection to occur, students need some conceptual tools to use to analyze experiences and some value commitments to use to evaluate their teaching. Students used some of the concepts introduced in courses to reflect-in-action.

"I really became aware of the hidden curriculum—to decide what type of teacher I am, what goals are at the top of my list, and what methodologies I favor." However, these goals and ideas now had practical value so important at the beginning stage of becoming a teacher, as Fuller and Bown (1975) have noted. One student pointed out the importance of the teaching experience in the preservice courses. "The difference is feeling you're in the program to study versus you're learning to be a teacher." Further, some students realized that how they taught was affected by specific concepts from courses. "Our study of social action, reflection, etc., is good in that it continues to influence our teaching unconsciously as well as directly." Critical reflection assumes evaluation, the application of values and beliefs. Some courses seemed to have provided this to the undergraduates.

Factors inhibiting reflection. The lack of rapport appeared as an important factor that seemed to inhibit reflection. On occasion there was failure to develop a relationship in which students, teachers, and professors felt safe to risk sharing concerns, doubts, feelings of uncertainty and inadequacy, or anger. It appeared that a lack of desire kept participants at a distance from one another. "The only time our teacher has appeared pleased occurred today when we indicated we will not be at the school next (Reading) week."

Time was frequently lacking as students sought to discuss with teachers their observations and experiences in the schools. Teachers also pointed out that some students arrived after the children, so there was no time to plan together. Teachers and students often had commitments after school that cut short the time needed to reflect together on students' teaching and problems or questions. Similarly, professors were perceived not to be in the schools enough where teachers and students could reflect-in-action with them about assignments, problems needing clarification and solution, and differing points of view. It seemed that the module was a small part of the professors' assigned teaching load. Consequently, they were unable to be in the schools to interact with students and teachers during the richest time for reflection on the events and their teaching.

All participants experienced the need for ongoing dialogue for the purposes of planning, evaluating, providing feedback, and facilitating reflection. Teachers observed that "keen, eager prospective teachers have questions and time for dialogue must be scheduled." "There was a lack of time to communicate with students prior to and after visits." Students regretted the "lack of opportunity to discuss the lesson with the instructor prior to that day." One student commented, "The teacher said she was sorry she doesn't have more time for us. We said we realize she is very busy; we do not want to impose on her." Time for conferencing needs to be provided if the full value of reflection is to be achieved. Action is required to access financial assistance; collaborative funding by the university, school board, teachers' association, and government should be investigated.

Summary. These excerpts from student journals and interviews indicate that some reflection-in-action was generated by the concurrent school experience in being a teacher, secure in having the support of an experienced teacher, while taking courses that provided concepts and values aiding reconsideration of these experiences. Factors that made a positive contribution to

reflection seemed to include: (a) direct experience in teaching and the problems that result; (b) opportunity to observe a teacher with a particular teaching style, sometimes at odds with that of the student; (c) time to sit down in a relaxed, trusting setting and talk over with their teacher or professor the problems students encountered in their teaching; (d) encountering differences in teaching philosophies among the student, teacher, professor triad; (e) writing in their journals about that day's school experience, and reading the feedback received; (f) learning concepts and values in courses that could be used in analyzing and evaluating teaching methods used by students and teachers; (g) having assignments that required designing plans for achieving educational goals, then trying out those plans and discussing and evaluating results with teacher, peers, and professors; (h) providing manageable (weekly) increments in student responsibility, enough to stimulate reflection on problems encountered, but not so much that the complexity of the task overwhelmed analysis, reframing, or reflection-in-action; (i) placing a pair or small group of students with teachers so there was another beginner with similar course background and assignments with whom to reflect on their school experiences; (j) providing assignments that involved students in cooperative planning and teaching to foster discussion, debate, comparison of interpretations of the situation, and nonthreatening feedback on their teaching; (k) freeing teachers from an evaluative role so that students could openly discuss with them problems, failures, uncertainties and anxieties encountered in their initial teaching experiences; (l) encountering a wide variety of different kinds of children with varying abilities, needs, home backgrounds, school histories, and attitudes in both special and regular classrooms so that students were pressed to reflect on purposes of schooling and varied methods appropriate for children's differing characteristics; and (m) taking a set of common courses with common assignments and school experiences helped develop a sense of community in which students were more able to risk sharing their problems, dissenting views, worries, and emerging ideas. Where teachers and professors were included in this community, wider sharing sometimes heightened reflection and insight.

Implications and Further Questions

Collaboration, Commitment, and Interaction

As Montagu (1966) has indicated, "The critical social and educational problem of to-day is one of learning how shared relationships may be fostered and freedom of inquiry accelerated. It seems to me, first, that this must be done through the schools, and second that there must be virtually complete change in our attitudes towards education" (p. 118). The collaborative community of educators involved in this study raised questions about how time can be made available so that roles of professors and teachers can be redefined. How can teachers assume more of a professorial role and professors more of a teacher role while student teachers have opportunity to become reflective teachers? The initial planning process included professors, principals, and teachers. After four months of planning, students appeared in university classes and learned they were to spend a half-day or so each week in a classroom in addition to attending the lectures that they had expected would constitute

the program in its entirety. They were now expected to arrange transport to and from schools, keep journals, plan lessons—all for no additional credit. There was considerable feeling of injustice concerning this requirement, but little surprise that they had had nothing to say about these plans for use of their time. In spite of the inconsiderate treatment that they had been subjected to, students demonstrated their ability to suggest good ideas as the term progressed, and during the final evaluations showed concern for others in addition to themselves in discussing directions for program change. The paternalism of past university practices in precluding student participation in program planning has been costly. Much stands to be gained from inviting student contributions to planning.

Willingness to cooperate with others in the context of such a program must be stated as a requirement for participation. Planning sessions involving professors and teachers need to be conducted prior to the onset of in-school sessions so that expectations for student performance can be mutually delineated. Professors need to assume responsibility interdepartmentally for the provision of module course instruction and related in- school learning. Student peer group meetings and school staff meetings need to be scheduled to establish support systems. School administrators need to stimulate reflection on developments in all participants.

The sense of belonging that arose from shared experience with the school community, staff, and children was captured by some undergraduates. They reflected on moments of illumination that revealed their ability to meet children's needs and to begin to teach, as well as awakening confidence and pride in themselves. The desire to follow this term course experience with their full-time student teaching practicum was seen as advantageous and a saving of time for both participants. In fact, several students were able to arrange their return to the same classroom for their practicum.

Reflection

An important program goal was to stimulate student reflection on teaching. Data from student journals, student interviews, teacher evaluations, and professors' interviews provide evidence that there was considerable reflection during the program. Particularly significant was the concurrent experience of taking courses while teaching children. Where student teachers in other practica have no ongoing courses, they often seem to focus solely on learning to teach by modeling their cooperating teacher. Although they have previously taken courses that have equipped them with concepts to use in planning and teaching, students largely take over their teacher's existing program, classroom management procedures, and materials. The enormity of the task and its exhausting demands plus the evaluative role of their teacher frequently lead to student imitation of their teacher in order to survive. This reduces the opportunity and inclination to critically reflect. However, because students were only spending a half-day each week in classrooms, and not teaching for all of that time; because their teacher was situated in a nonevaluative role; because one or more peers were sharing the responsibility and the teaching; because professors were discussing their experiences and course concepts with them both in the schools and in class;

and finally because some course assignments were done in classrooms, the concurrent "study plus teaching" program seemed to stimulate and support more reflection and openness about teaching.

In some instances, students frequently encountered differences in values and beliefs about teaching among their teachers and their professors. This seemed to generate cognitive dissonance, a need to seek resolution of competing ideas, to reconstruct their beliefs to accommodate these varying ideas. Sometimes journal entries indicated growing skepticism about the feasibility of a professor's pet idea. At other times students rejected teachers' handling of discipline. Often they left the issue open, uncertain of how to resolve it, but allowing it to remain a topic for further discussion, study, reflection, and experience.

The impact of time on reflection was a continuing concern to participants. The lack of time was felt as teachers and professors attempted to reflect and to discuss the program and students' experiences. Because teachers had no time to participate in the courses, nor to question professors about ideas students were bringing to their classrooms, they were less able to use course concepts to reflect on their own teaching ideas and to share in student use of those concepts in their reflections. To be truly collaborative and achieve inservice growth, such a program needs to assure adequate time for teacher participation.

Finally, rapport among students, teachers, and professors often affected reflection. When students and teachers developed a warm relationship, more open sharing of questions about teaching took place. Similarly, where students in a classroom became good friends, they provided emotional support for each other's thinking as they jointly encountered problems in their teaching and more critical reflection was likely to occur. Students who perceived their relationships with professors to be open and encouraging of exploration of divergent ideas reported they were more likely to use class time to go beyond learning concepts, and to use concepts for analysis and evaluation of school experiences. Time seemed to be a major contributing factor. When other demands pressed on students and teachers, good rapport seemed more difficult to develop, and the openness needed for critical reflection was less likely to occur.

Conclusions

The first section of this report traces the history of the collaborative school-based teacher education project back to plans by members of the Department of Elementary Education to work with school staff to reconstruct the teacher education program. Much of the foregoing evaluation report focuses on details of the four-month school-linked modules project. However, it is important not to lose sight of the broader purpose of renewal of the whole four-year BEd program.

It seems clear from the conclusions reported above that some structural aspects of teacher education programs stimulate and some inhibit students' reflection-in-action. It seems desirable to plan concurrent practica and coursework. This idea is further supported by research reported by Tickle (1987) and by Zeichner and Tabachnick (1985). Tickle's students at East

Anglia University are attached to schools one day a week during all four years of their program, and Tickle describes the projects students develop that enable them to go beyond learning the nuts and bolts of teaching to research on teaching as part of a teacher-student-tutor triad. The conception of the school attachment as an opportunity for research and reflection in which apprentice, master teacher, and tutor-researcher collaborate in systematic study of teaching changes the orientation of students from learning to teach the way a particular experienced teacher teaches, to studying how children respond to different approaches to teaching.

At Wisconsin, Zeichner and Tabachnick use a course in the sociology of education to prepare students to study a school staff's norms, beliefs, and practices and the history of their development as a way of reorienting students to a heightened awareness of the tacit beliefs and usually unquestioned norms and practices that prevail. The conceptual tools of sociology enable more analytical and evaluative reflection on proffered teaching norms shared by the teaching staff.

The results of these two programs seem consistent with the present study and imply the need to structure teacher education programs to provide concurrent practica and coursework with explicit activities planned to promote reflection, such as journal writing, assignments calling for evaluation of students' teaching, research on specific teaching approaches, participation in research teams, and the like. The risks of failure are heightened by the disempowerment of students when experienced teachers and professors are seen to be sitting in judgment on early efforts to make ideas work in practice, and to reflect on those efforts. A nonevaluative practicum offers more support for reflection than one where student success is rated by teachers and professors.

It is noted in the section on Reflection that students were helped to reflect-in-action during their school visits by using some of the concepts introduced in their concurrent education courses. However, students clearly were limited in their reflections by not being able to more effectively apply concepts from the sociology of education to explore the ideological and the sociopolitical positions that teaching beliefs and practices represented. Hence much of the hidden curriculum remained hidden. Nor were students adequately conversant with alternative philosophies of education that depict different roles for schools and different supporting belief systems. This prevented students from engaging in substantive reflection on their evolving personal philosophies and critiquing personal practical knowledge regarding teaching. Similarly, their limited grasp of principles of child development and learning theory restricted their ability to question the appropriateness of methods, materials, and content being used in the schools.

It seemed that much of the knowledge developed in these fields had been too abstract, too removed from the undergraduates' own experiences, and from children and teachers in classroom groups for it to be available as a conceptual tool useful in analysis and critical reflection on their school experiences. One of our failings has been the omission of staff from Educational Foundations and Educational Psychology in the planning and undertaking of the project. The consequence is too narrow a reconceptionalization

of the BEd program. Too heavy a focus on the marriage of school and campus in the module curriculum and instruction program has indicated a narrowness in this project.

With expressed administrative support and funding, staff inservice commitments for one year or for the full four years of the BEd program could be focused on the collaborative teacher education plan. Inservice pressures can lead to overextension of staff energies. Protection may be found in facilitating the commitment of university professors and school staff to a focused professional collaboration. Shared research roles and cooperative teaching experiences could stimulate all staff members involved.

Note

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Elementary School Teachers Explain Why They Do Not Use Creative Dance in Their Classrooms

Creative dance programs in elementary schools have been found to benefit children's development and to provide an enjoyable and expressive activity for children (MacDonald, 1989). Such programs have also been shown to act as an innovative method of teaching and integrating the elementary curriculum. Despite these positive contributions, little if any creative dance is now being taught at the elementary school level (Courtney & Park, 1981; Fowler, 1989). This article presents findings regarding why elementary school teachers are not currently implementing this art form in their classrooms. Elementary school teachers were recruited and selected for an interview, and the data gathered in this interview were used to identify teachers' reported attitudes and practices about teaching creative dance. Teachers' reasons for not implementing creative dance formed three main categories: attitudes and beliefs, knowledge or skills, and resources or facilities. The findings regarding attitudes and practices indicate that support and inservice that address teachers' needs in the areas of attitudes and beliefs, knowledge or skills, and resources or facilities are necessary. The findings also suggest that providing intervention addressing teachers' expressed needs could go a long way toward ensuring that more children are exposed to this noncompetitive, nonthreatening activity.

Introduction

Have you ever seen children so totally involved in what they are doing that their heads are wet with perspiration and their faces beam proudly as their bodies interpret and express a life situation? Have you observed schoolchildren moving to music and using their bodies to solve a mathematical equation? Have you watched children get so excited while manipulating a dance prop that they do not want to stop for recess?

These are just some of the experiences of elementary school teachers who have implemented creative dance in their classroom. As is the case with the arts in general, though, little if any creative dance is now taught in the school system (Courtney & Park, 1981; Fowler, 1989). This article explores why, despite these and other positive experiences, elementary school teachers are not currently implementing this art form more widely in their classrooms. It is first necessary, however, to define creative dance and discuss its importance in the curriculum.

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What Is Creative Dance?

In this article, *creative dance* refers to activities expressed through the medium of the body that focus on inner thoughts and feelings and enhance the expression of those thoughts and feelings. Creative dance emphasizes creativity, problem solving, and the expression of thoughts and feelings; it also involves participants physically, emotionally, and intellectually. For example, mathematical fractions might be taught by rhythmic chanting and movement, poems interpreted through creative dance, or the meaning of the planets and their position in the universe instilled by creating dances.

Creative dance uses basic dance techniques borrowed from other dance forms, including modern dance. Creative dance is a nonthreatening, noncompetitive activity that recognizes and encourages individual differences while challenging participants to improve physical skills and aesthetic expression. Creative dance is easily taught in gymnasiums, multipurpose rooms, or classrooms, and it requires no previous dance background of students or teachers.

Why Is Creative Dance Important?

I have studied and taught creative dance in elementary schools and universities in different Canadian cities and provinces for 12 years. As a result of this experience, I believe that creative dance can play a vital role in elementary schools both as a focus within the arts curriculum and as a vehicle for learning. I also believe that creative dance can be used as an innovative method of teaching and integrating the elementary curriculum.

There is considerable evidence that creative dance is of extensive value and importance to children (Best, 1985; Boorman, 1973; Courtney, 1980; D'Houbler, 1957; Laban, 1968; MacDonald, 1989; Riley, 1984). First and foremost, children experience feelings when they participate in this art form. Moreover, these feelings are particular to and inseparable from the art form in which they are expressed (Best, 1985). The feelings creative dance gives children, therefore, cannot be experienced in any other way, and only those children who have experienced creative dance can appreciate its physical, intellectual, and emotional impact. As a result of this total involvement, a dialectic is established between the child's inner and outer worlds. Physical movements are external representations of what is occurring internally, and because these movements could not take place without inner experience, the inner experience cannot be denied (Best, 1985).

Creative dance programs in elementary schools have been found to benefit children's development and to provide an enjoyable and expressive activity for children (MacDonald, 1989). The entire process emphasizes exploration, problem solving, and the interpretation of life issues with the intention of enhancing the development of the whole child: the child's inner world, outer world, and aesthetic expression. Encouraging the expression of individual differences, creative dance also gives children an opportunity to explore their views on life issues, on the entire human condition, and on their own human condition. This exploration may in turn deepen their understanding of life's experiences and increase their sensitivity to these experiences (Best, 1985).

Creative dance can also facilitate children's personal development in significant ways. For example, through this art form, children can discover that many situations have a number of meanings, experiment with a variety of solutions to problems, and learn to accept and reject one another's ideas (Boorman, 1973; D'Houbler, 1957; Riley, 1984). Creative dance gives children an opportunity to solve problems by exploring situations, testing hypotheses, and discovering solutions. Moreover, creative dance gives children myriad opportunities to communicate, develop social skills, and increase their self-confidence.

Creative dance may also provide ways of learning that could not otherwise occur (Boorman, 1973; Gardner, 1985). As a result, it is possible to integrate creative dance into the teaching of various core subjects in the curriculum. Put more strongly, in a curriculum espousing holistic concepts, creativity would be of paramount importance in all subjects, the arts would be integrated into all core subjects, and creative dance would have an integral place in the curriculum (Boorman, 1973; D'Houbler, 1957; Laban, 1968; Riley, 1984).

More precisely, creative dance would be taught not only as a subject but also as a method of learning. Like learning centers, this use of creative dance would integrate subjects across the curriculum; in addition, it would develop the whole child. Miller (1988) endorses the assumption underlying this article, namely, that creative dance is more than a physical process, that it involves other aspects of our being. In addition, Miller supports Gardner's view (1985) that denying children's physical development can negatively affect their full development—including intellectual development.

In sum, creative dance can help children reach their full potential, for it encourages the development of the whole child by enhancing creative exploration and facilitating emotional expression. Moreover, if children feel good about their bodies and their movements and if these outward expressions help children realize and interpret their inner feelings through the medium of the body, everything they do will be affected.

Research Design

Elementary school teachers in a mid-sized Ontario city were recruited and selected for an interview. Recruitment took place in university courses, practice teaching sessions, and professional development workshops in which I was involved. In these various environments, I presented information about my research, described its objectives, and explained the criteria for participation:

1. Participants had to currently be teaching Jr. Kindergarten, Kindergarten, or Grades 1, 2, or 3.
2. They had to have taught Jr. Kindergarten, Kindergarten, or Grades 1, 2, or 3 for at least one year.
3. They could not currently be teaching creative dance as the term is defined in this article.

Thirty-three teachers expressed an interest in participating. Of these, 19 women and one man met all of the criteria. All participating teachers were asked to take part in an audiotaped interview. Because of its convenience, the setting for most interviews was the classroom. Interviews ranged from 20 to

30 minutes in length. The interview questions focused on participants' teaching and dance background, their attitudes toward and practices regarding creative dance, and their intentions, beliefs, anxieties, and needs with regard to the teaching of creative dance. Questions were posed in such a way as to both increase my understanding and improve my interpretation of teachers' responses and make me more aware of teachers' needs regarding the teaching of creative dance. In the interview, teachers spoke freely about their opinions, problems, anxieties, beliefs, needs, and frustrations concerning creative dance.

This audiotaped interview was transcribed in full. I read, analyzed, and reflected and deliberated on the transcripts' contents in an effort to identify and determine acceptable and meaningful terms that would enable me to understand, organize, and explain findings. Teachers' reported attitudes and practices were documented using their own responses, and their needs with regard to teaching creative dance were identified and interpreted.

I next met with each teacher individually and provided him or her with a copy of the transcript. My purpose at this time was to get each individual's reactions and to record any necessary additions, corrections, explanations, or clarifications. With the exception of minor grammatical concerns, no major problems arose, and these issues were immediately addressed and wording changed to clarify the teacher's intentions. The content of the individual transcripts was categorized and interpreted.

Results

This section presents information on teachers' background characteristics and explanations for attitudes and practices related to both creative dance and the teaching of creative dance.

Background Characteristics

Of the 20 teachers interviewed, six taught Jr. Kindergarten, five taught Kindergarten, six taught Grade 1, eight taught Grade 2, and three taught Grade 3. Eight of the 20 taught split grades, as a result of which the total number of grades taught was 28, not 20. Teaching experience ranged from four to 27 years, with an average of 13.4 years of full-time teaching.

Eleven teachers had no previous training or experience of any kind in dance. Nine had some exposure to dance; however, for every teacher but one, this training or experience was very limited. For example, one teacher had taken a noncredit social dance course at a community college; one had taken six jazz dance lessons, a few had taken some creative dance as part of a Ministry of Education course, and another had been to a professional development workshop on creative dance.

All teachers reported they had never taught creative dance as part of their classroom program. Nevertheless, all also said they believed creative dance should be included in the elementary school curriculum. When asked why they felt this way, all expressed the belief that creative dance was important to the total development of the child. For example:

> Teacher 4: I think it is important, especially because some children who aren't good academically might excel in that area ... but children that aren't really good at other things can really come out of their shell.

Teacher 6: Well ... because creative dance allows the child to express ... ideas and ... opinions not only mentally and verbally but through movement.

Explanations for Attitudes and Practices

Given that not implementing creative dance was one criterion for selection in the study, the unanimous belief that creative dance should be part of the curriculum was especially interesting. Teachers' reasons for not making creative dance part of their program thus took on added significance. Three categories of explanation emerged: attitudes or beliefs, knowledge or skill, and resources or facilities. In each category, responses could be further differentiated into three to five sets, each set representing a particular feature or dimension of the category. For example, in the category of attitudes or beliefs, a set of responses all expressing lack of confidence emerged. It was necessary for an explanation to be mentioned by at least two teachers to qualify as a category.

Attitudes or beliefs. This category addressed teachers' personal attitudes or beliefs regarding the teaching of creative dance. Four sets of attitudes or beliefs were identified: *confidence*, *priority*, *time*, and *apathy*.

Confidence referred to responses indicating that teachers believed that they did not have enough confidence to implement creative dance. Eleven teachers cited this type of belief as an obstacle. For instance:

Teacher 16: Yeah ... I think there is an element of [discomfort] (laughs) when you haven't done a lot of it yourself.

Priority responses included those indicating a belief that creative dance was not important, for example, because the Ministry had not emphasized it in the curriculum or it was not important relative to the core subjects. Eleven teachers cited this attitude as an obstacle to implementing creative dance; responses included the following:

Teacher 6: There have been a lot of these documents out lately, and every time a document is out, my Board goes around and does a lot of mini-workshops on the document, making sure that it is implemented, making sure we understand what is going on. So in the last few years, we have had workshops on art, we've had workshops on drama, we've had workshops on shared discovery. Nothing ... if there is nothing on creative dance, then teachers take the priorities. The priorities are the Ministry priorities.

Teacher 11: It's never seemed to have been a very high priority with anyone with the Board.

The third set, time, included responses indicating that lack of time was one of the reasons teachers had not taught creative dance; lack of time refers to not having enough time to learn material regarded as necessary, not enough time to look for teaching resources, not enough time to fit dance classes into programs, and the like. Nine teachers cited lack of time as an obstacle to teaching creative dance. The following responses were included in this type of attitude or belief:

Teacher 11: Well ... it's the usual, you know, you just don't seem to have enough time in the day... . And if you say, "Gee, I have to get this done and this done" and there are all these pressures from above, from the principal

or whatever, and this has to be done, and the children have to be able to do this ...

Teacher 19: It's not just the initiative; it's the time, you know, when you're planning this and you're running off that and you are trying to see children for something else and you're writing reports and you're putting up bulletin boards, you know, it's just ongoing all the time.

Apathy responses included those indicating that teachers were not implementing creative dance because they couldn't be bothered to teach it. When teachers were asked why they were not implementing creative dance, only two cited this factor as an obstacle:

Teacher 16: Well, no, I am just thinking like ... in our school particularly ... one of the reasons that was brought up one time in the staff room was that you have to carry [so much] around.

Knowledge or skill. The category knowledge or skill addressed teachers' knowledge or skill as it related to the teaching of creative dance. Four sets of knowledge or skill responses emerged in the analysis: *content*, *methods and integration*, *music*, and *rationale*.

Content referred to responses indicating that teachers identified concern with content—with what to teach—as a reason for not including creative dance in their programs. All teachers identified content as a factor. Following are two content responses:

Teacher 6: I didn't know *what* to do ... I have a group of 20 children; what specifically do I do with those children in my classroom?

Teacher 13: I don't have the background for that at all ... the content, the nitty-gritty of what to do and then where to use it and how to use it.

Methods and integration included responses indicating that teachers had not included creative dance because they did not know how to implement or integrate it. All teachers cited methods and integration as a problem. Here are two such responses:

Teacher 6: I did not know *how* I could incorporate it into my class without taking a lot of time away from other subjects I am teaching.

Teacher 15: Just lack of knowledge of *how* to implement it basically.

Music, the third set of knowledge or skill responses, referred to responses indicating that teachers did not know what music to choose or where to find appropriate music. When teachers were asked why they had not included creative dance in their program, 12 cited music as a problem. For example:

Teacher 15: I don't know where to start; I don't think that I have the right records in my classroom or at my fingertips.

Teacher 4: Materials and music and stuff like that. Because I find that music is hard to find.

The final set of knowledge or skill responses, rationale, included comments indicating that teachers had not taught creative dance because they did not understand why it should be incorporated into their program. Six teachers cited lack of rationale as an obstacle to implementing creative dance. The following comments highlighted teachers' concerns in this area:

Teacher 15: Ah ... we have a section on creative dance in our core program, but ... sometimes I read the objectives, and I don't understand its relevance to creative dance.

Teacher 6: I need to know *why* I should teach creative dance in my classroom.

Resources or facilities. The third category addressed teachers' concern about whether enough teaching materials, resource materials, resource persons, and facilities for teaching creative dance were in fact available to teachers. Six sets of responses pertaining to resources or facilities emerged: *recognition and support from the Ministry*, *reading material*, *equipment*, *instruction*, *support systems*, and *space*.

Recognition and support from the Ontario Ministry of Education included responses indicating that teachers were not implementing creative dance because it was not included in the curriculum or recognized by the Ministry, for example, by way of a support document or inservice training. Fifteen teachers identified lack of direction and support from the Ministry as an obstacle to implementing creative dance. The following responses indicated the importance of Ministry support:

Teacher 11: Well, dancing is such a ... well, at the moment, it is not part of the curriculum ... so if you really want to make it an important factor ... as I say, the Ministry would have to ... really make it a must and make it part of the curriculum.

Teacher 12: But it is something that tends to be skipped over ... because people tend to go to the area of sports ... but I think if there was a Ministry document, then that might make people see just how important it is.

Reading material referred to responses indicating that teachers had not included creative dance in their program because they did not have the appropriate articles, documents, books, or other literature. When asked why they had not taught creative dance, 15 teachers remarked either that not enough had been written on creative dance or that not enough written material on the subject was available to them. The following responses identified the need for reading material:

Teacher 5: But then it is always nice to have a reference to go to, to say "Hey! These are ideas I could try" ... some, perhaps, skills that could be taken a bit further. So that's possibly one of the downfalls which has discouraged me from teaching it.

Teacher 11: And I haven't seen anything that I can remember that ... would help me, that I could say, "That's right, that is something I could use" ... and to give me an idea of where to start, and what I could do, what is something I could do with four-year-olds.

Equipment, the third set of responses related to resources or facilities, included comments suggesting that teachers were not implementing creative dance because they did not have access to the needed equipment (record players, tape recorders, extension cords, props, videos, costumes, and the like). Eleven teachers indicated that equipment was an obstacle to teaching creative dance. Responses included the following:

Teacher 12: And a ... lack of finances to get stuff once you've, once I've thought of things that I'd like to do.

Instruction responses included those indicating that lack of experience in or exposure to instruction in creative dance, for example, in courses, classes, or workshops, was a reason for not teaching creative dance. Eight teachers indicated that this factor was a problem. Comments associated with instruction included the following:

Teacher 15: I think I speak for a lot of people that people are not comfortable with it because we haven't had that in high school or elementary school.

Teacher 17: I just felt I haven't been trained. Even when I went to teachers college back in 1967, we didn't have anything for that.

Teacher 11: I feel if you want to put some emphasis on creative dance, you can only do that through workshops or during PD days.... You want to give some of your time, but if they really want to make this really beneficial and something that will be successful, give us the time and a chance to really do it.

Support systems responses indicated that teachers had not included creative dance because they did not have access to resource persons or support systems. When teachers were asked why they were not implementing creative dance, four referred to this issue of support. Responses included the following:

Teacher 9: It never seemed to have been a very high priority with anyone, with the Board, whether it be the Phys. Ed. consultant or whoever. I mean, that has just never been a high priority with any of them; so ... nothing really has come from them.

Teacher 4: Because I think some principals probably don't see creative dance as Phys. Ed. or as valuable; so you have to know why you are doing it.

Space, the final set in this category of responses, referred to comments suggesting that space had prevented teachers from teaching creative dance. Three teachers identified space as a problem; responses included the following:

Teacher 12: The time element with the gym ... the gym being assigned for 30 minutes twice a week really limits what you want to do and the amount of time you can spend in that area ... lack of facilities, at least what I would consider a lack of facilities.

Teacher 4: You are limited in your Phys. Ed. two or three blocks a week. And in a classroom with 30 desks and you know, one little ... space for the kids to sit. You have to be able, sometimes it sounds good on paper, but when you get in with 30 kids to try to walk around, it's hard.

Findings: Highlights and Implications

To summarize, many teachers did not feel comfortable with or confident about teaching creative dance. They cited not knowing what creative dance was and how it could benefit their school program as reasons for not including creative dance in their classroom practices. With respect to teaching creative dance, many teachers said that they did not know what to teach, how to teach it, or how to integrate it across the curriculum. In addition, the lack of resources or facilities available also affected teachers' practices regarding the teaching of creative dance. Finally, the priorities established by the

Ministry, Board, and school principals had considerable effect on classroom practices regarding the teaching of creative dance.

These findings have certain implications for interventions designed to encourage elementary school teachers to teach more creative dance. First, whatever form of intervention is chosen, it is important to establish a climate of respect for teachers' uniqueness as individuals and to be flexible in response to teachers' questions and concerns. For example, workshop facilitators should establish a climate in which teachers feel free from tensions, stress, doubt, or embarrassment; encourage teachers to choose their own level of participation; and encourage teachers to be self-directing and to adapt or extend the workshop experience to meet their classroom needs.

Second, since understanding the meaning of a proposed change is a vital step in ensuring that change will occur (Fullan, 1982; Regan & Leithwood, 1974), intervention should enhance teachers' understanding of what creative dance is, why it should take place, and how it can benefit teachers' programs. In workshops, facilitators should explain the role creative dance can play in the elementary school program.

Third, teachers indicated that practical ideas would be instrumental in changing their attitudes toward and practices regarding creative dance because they could transfer these ideas into their specific teaching situations. Teachers also said that practical ideas related to integrating creative dance across the curriculum would be particularly helpful. Interventions should therefore feature explicit information on how to integrate creative dance into core programs, for instance, demonstrations of manual creative dance skills designed to enhance lessons in mathematics, science, language, and other content areas.

Fourth, teachers need access to more resources on creative dance. Intervention should therefore include providing teachers with resource lists of journal articles, textbooks, and teaching videos. Teachers expressed a strong wish for resources on how to present abstract ideas in concrete form. Addressing the issue of facilities by showing teachers how to implement creative dance with limited space is also necessary.

Finally, there is a definite need for departments of education to create support documents on creative dance. The effect of current priorities is to deemphasize the arts in general and creative dance in particular. For example, all 20 teachers reported that their ministry has produced no support document on creative dance, that there is little emphasis on the subject in the curriculum, and that creative dance has no priority on professional development days or in workshops. By contrast, documents do exist in other subjects, for example, science, drama, and music. There is a parallel need for departments and school boards to recognize professional development in creative dance and to provide relief time for such development (Guskey, 1986). Support and encouragement from all levels of administration seems basic to improving and changing the situation (Courtney & Park, 1981; Fullan, 1982; Goodlad, 1984).

Conclusion

This article explores why elementary school teachers are not currently implementing creative dance in their classrooms. The findings point to the need to provide support and inservice for elementary school teachers to address their needs in relation to attitudes and beliefs, knowledge or skills, and resources or facilities.

Understanding why creative dance is not more prevalent in the elementary schools is the first step in planning an appropriate intervention strategy. The findings discussed in this article also suggest that providing intervention addressing these expressed needs could go a long way toward ensuring that more children are exposed to this noncompetitive, nonthreatening activity.

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Nature and Influence of Values in Principal Decision Making

The research addressed five questions concerning the place of values in administrative decision making. This was done in an effort to improve understanding of the nature and influence of the values in professional decision making. Data were collected in three phases from elementary and elementary-junior high principals in a small, urban school district in Alberta. The phases included open-ended interviews, simulated decision tasks, and structured interviews. Beck's (1984a) value framework guided primary analysis and the work of Hodgkinson (1978) contributed to interpretation. Principals made multiple reference to three of Beck's five value categories: social and political, basic human, and moral values. Of these three, social and political and basic human were dominant. A primary set of 15 individual values emerged from the categories.

Discussion of administrative decision making typically focuses on a description of a rational view of the decision making process. This rational view separates value from fact and emphasizes the importance of the latter in decision making. Although such a view has generated models and systems of decision making, it does little to advance our understanding of the influences and rationale of the individual decision maker. That is, it provides some insight into the *what* of decision making but ignores the *why*.

The face of educational administration literature, traditionally sparse in its treatment of the nature and influence of values in administration, is changing. The work of Evers, 1985; Lakomski, 1987; Hodgkinson, 1978; and Greenfield, 1986 is evidence of this change. These authors have contributed to a debate and a growing body of literature that addresses the significance of values in theoretical terms. As suggested by Begley and Leithwood (1990, p. 338), "a theoretical perspective that accommodates the existence of values as influences on administrative practice at least potentially expands our understanding of administrative actions beyond that which is possible employing the exclusively rational frameworks normally associated with effective schools." This important first step provides the foundation for the empirical study of values in the administration of schools. Study that is focused on the decision maker contributes to an understanding of principal practices.

This research contributes to a group of studies attending to the causes of principal practices (e.g., Begley, 1988; Begley & Leithwood, 1990; Leithwood and Stager, 1989; Stager & Leithwood, 1988). In these works, internal influences or values are deemed to be an important cause of action. As

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Holmes (1986, p. 89) suggests, the facts we perceive depend on the values we have and this interrelatedness of fact and value accounts in part for action. It is through values that individuals formulate a standard of acceptable behavior. This standard reflects a fit between facts and values, that is, one judges the facts from a values position. Values are expressed through actions and through one's judgment of the actions of others.

This study addressed questions concerning the place of values in administrative decision making in an effort to improve understanding of their nature and influence. The research focus was to highlight the value component of principals' decision making processes by identifying and categorizing those types of values employed so that values and their influence on the process could be examined in specific terms.

Specifically the research sought to answer five research questions. First, to explore the nature of values:

1. What types of values do principals use in making professional decisions?
2. What importance do principals attach to different types of values?
3. To what extent are values influential in a principal's decision making process as compared with other relevant influences?

Then, to investigate how values influence decision making:

4. Do principals with different orientations to the role bring different sets of values to bear on decision making?
5. How do principals respond to situations in which proposed courses of action conflict with their values?

The questions were addressed through three phases of data collection. The intent was to collect descriptive data and subsequently to use these data to try to understand the values component of decision making actions, choices, and priorities.

Framework

Literature on the topic of values indicates the existence of discrete categories or types (e.g., Beck, 1984a; Hodgkinson, 1978; Rokeach, 1973). A categorical organization of values allows for the investigation of preference for some value types over others. This preference may explain the variation between individuals' actions. That is, in the same circumstances different principals make different decisions and consequently act in different ways. The differences may be accounted for by the relative importance each attaches to particular values and value types within the value domain.

Facts are the *is* component of experience and they are interpreted through an individual's system of values, the *should* component. Facts provide an information pool that is important when an individual is faced with making a choice between alternatives: the essence of decision making. Inclusion of values in discussion of administrative decision making provides a more comprehensive description and understanding of the process, as well as recognizing their role in principal practice. Although this description attends specifically to the fact-value components, these are only two of a larger set. Berleant (1973), for example, believes that values must be conceptualized with "reference to the human activities of believing, striving, responding in all sorts of ways to the things and events men encounter" (p. 28).

Beck's (1984a) framework was used to conceptualize the nature of values. He suggests that a fairly common set of universal values exists. Within this common set, five general types can be identified. These types and examples of each are presented in Table 1.

Beck (1990) suggests that it is a mistake to attempt to deal with value issues without reference to the "large questions" of life. "We cannot resolve or even come close to grips with value issues without bringing to bear perspectives of this kind" (p. 11). Analogous to Beck's "large questions" is the organizational context of school. Singular decisions and actions must be made in relation to the big picture of school life and goals. Priorities and emphases may change and shift over time and with respect to specific circumstance. An integrated look at values, decision making, and principals that focuses on the interplay of these components within the framework of the organizing structure is important. The value component of principals' decision making must be explored within the context of school.

Recognition of the value component of organizational life is central to the work of a number of theorists. It was within this perspective that the research was framed. Greenfield (1985, p. 3), for example, sees values as the means to form and order facts. It is values, he contends, that structure decision making.

Decision making is primarily focused on choosing one course of action from a possible many. The choice is made within a context and is influenced by elements of the environment. Decision makers, therefore, are bounded by environmental restraints such as available time and resources as well as by the personal constraints of skill, knowledge, and processing capacity. As the administrator of a school, the principal engages in significant and varied instances of decision making. Leithwood and Stager (1986, p. 2) see the job of

Table 1
Examples of Value Types

Basic Human Values:
survival, happiness, companionship, friendship, helping others (to an extent), participation in community, self-respect, respect from others, knowledge, freedom, a sense of meaning in life, etc.

Moral Values:
carefulness, responsibility, courage, self-control, reliability, truthfulness, honesty, politeness, fairness, unselfishness, etc.

Social and Political Values:
peace, justice, due process, tolerance, participation, cooperation, sharing, loyalty, solidarity, citizenship, respectability, etc.

Intermediate-range Values:
food, shelter, entertainment, relaxation, fitness, good family relationships, ability to read, write and calculate, meaningful employment, financial security, etc.

Specific Values:
a car, a telephone, a particular neighbourhood, a particular friendship, a high school diploma, a good TV, a particular sport, a particular political party, a particular job, etc.

Source: (Beck, 1984a, p. 2)

a school principal as one where the individual is bound to make choices that best suit the context in which they find themselves.

It was within a framework where, first, both fact and value are seen to affect the importance and relevance assigned to various factors within each decision alternative and, second, where values provide structure and organization for the determination of action that this study was conducted. From this conceptual position it is possible to identify and explore the value component of decision making.

Method

This research was conducted with the principals of elementary and elementary-junior high schools in a small, urban school district in Alberta. There were eight such schools. One female and seven male principals were interviewed. Data were collected from each principal on three separate occasions in 1987. Total interview time per principal averaged six hours. All collection was undertaken by one researcher and was preceded by pilot interviews. The three phases of data collection included an open-ended interview (Phase 1), simulated decision tasks (Phase 2), and a structured interview (Phase 3).

Phase 1 centered around a question set for principals prior to the interview, that being: "Which of the professional decisions you have made during recent months would you identify as important?" In their discussion of the decision situation, principals were asked to address decision influences, actions, choices, and restrictions. Phase 2 decision tasks provided principals with a common set of decision situations. These simulated existing or previous District circumstances. It was intended that relevant tasks would allow principals to speak from experience rather than from speculation. This satisfies the requirements of content validity. The notion of relevance corresponds to the importance of content validity. "A simulation will have content validity if it includes the major relevant aspects associated with the dynamic decision making situation" (Thompson & Keon, 1982, p. 440). The purpose of the Phase 3 interview was to determine the research subject's orientation to their professional role. This phase utilized the profile work of Leithwood and Montgomery (1986). Responses to their structured Profile interview questions form a description of the individual's practice. The description is focused in the areas of goals, factors, strategies, and decision making.

All phases of data collection emphasized discussion. If our values and interests shape how we study and discuss reality, then discussion of that reality must reflect our values and interests. Exploring the realm of values is suited to a discussion approach. Through discussion, it was my intent to pursue the meaning behind action and come to an understanding of the principal's decision making in terms of the nature and influence of values inherent in the process.

All sessions were tape-recorded and transcribed. General themes and priorities evident in Phase 1 were shared with principals at the conclusion of Phase 2 for confirmation and verification. Principals validated the data during this playback exercise.

Analysis

Kluckhohn (1951, p. 395) defines value as "a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable that influences the selection from available modes, means, and ends of action." He links values to action by identifying them as one determinant of that action. To identify the value component of reported action, interview statements were analyzed according to Beck's (1984a) value framework. Words such as should, ought to, like to, good, important, have to were clues to value statements. Use of such words indicated a sense of what was desirable for that individual and important to him or her. Analysis of the data, organized within the value framework, resulted in drawing conclusions concerning its content. By equating importance with frequency, a noninferential strategy was employed, that is, no judgment was necessary to establish importance.

To determine the dominant value types and the importance principals attached to each type and values within each type, the data were examined in a number of ways. These included: (a) the number of references principals made to a particular value was noted; (b) the number of principals making reference to particular values was determined; (c) dominant values in Phase 1 were compared with dominant values in Phase 2 to determine consistency between data collected in an open-ended decision making discussion (Phase 1) and an incident specific decision task (Phase 2); (d) any value identified as important by all principals was noted. From these four different analyses, patterns in the type and importance of values used by principals in professional decision making, emerged. Table 2 displays the results.

Data were also examined for the consistency of each principal's responses across phases and for values dominant in a particular decision task.

Results

Types and Importance of Values

The principals made multiple references to three of the five specified value categories in their school based decision making: basic human values, moral values, social and political values. Of these three, two were dominant. Within these value categories a set of 15 individual values dominated: seven social and political, five basic human, and three moral. These 15 form the primary set of data as represented in Table 2.

Frequency data relevant to Phase 1 and to Phase 2, along with an overall tally and corresponding ranking are recorded in column two. Following that, frequency and rankings are provided (column three) based on the playback data. The playback exchange served as both a perception check and a summary. It provided a means of verifying with each principal, my overall, general impression of him or her as a decision maker based on the Phase 1 interview. The Principal/Phase data displayed in column four, indicates the number of principals who reflect the values in the primary set in Phase 1 and again in Phase 2. Column five provides data concerning the pervasiveness of each value. This is done through noting the number of decision tasks in which the value was mentioned.

The meaning and use of each of the 15 values in the primary set is specified through comments made by principals during the collection of data.

Table 2
Set of Primary Values

I Values	II Frequency Ph.I	Ph.II	+	Rank	III Play-back Freq	Rank	IV Princ/Phase $n=8$ Ph.I	Ph.II	V # of Dec $n=5$ Total
Basic Human									
knowledge	32	40	72	3	8	3	8	8	5
helping others	28	17	45	7	2	8	8	7	5
happiness	23	10	33	9	6	5	7	5	4
respect for others	45	16	61	4	9	2	8	7	3
survival	9	13	22	13	0	13	4	5	4
Moral									
responsibility	16	30	46	6	2	8	7	8	5
carefulness	8	17	25	11	2	8	5	6	5
fairness	9	11	20	14	1	12	5	6	4
Social and Political									
participation	61	53	114	1	10	1	8	8	5
cooperation	30	17	47	5	2	8	8	6	5
sharing	32	54	86	2	7	4	8	8	5
solidarity	17	6	23	12	5	6	7	5	3
respect for authority	13	32	45	7	0	13	7	8	5
commitment	18	9	27	10	4	7	7	7	4
community	12	8	20	14	1	12	3	6	3

Legend: II Frequency: # of mentions by 8 principals/phase
III Playback: # of reflections of a particular value in the playback description
IV Princ/Phase: # of principals who reflected particular value/phase
V # of DEC.Tasks: # of decision tasks in which particular value mentioned.

To clarify the meaning attached to each of these values, an illustration of each, within its category, is presented in column two of Table 3.

Values in the social and political and basic human value categories dominated the data. In terms of frequency, principals' comments most often reflected values of the social and political type (362), followed by basic human values (233), moral (91), specific (7), and intermediate-range (4). Within the possible range of values identified by Beck (1984a) it is notable that 15 values prevailed.

Principals referred to participation more often than any other value in Phase 1 and it was second to sharing in Phase 2, by only one tally. This value figured prominently in the playback and received mention in each decision task as well as by all principals during each phase. Overall, its dominance is clear. Principals indicated that they wanted to be involved with the activities of the school and that they attached importance to involving others. Sharing also had a particularly high profile in the data. It was the most frequent Phase 2 value mentioned by all principals and in each decision task. Overall, sharing holds the second ranked position with knowledge. Knowledge was

Table 3
Value Illustrations

I Values	II Illustration
Basic Human	
knowledge	- I think the knowledge is very, very important - another one I'm committed to is what Mannat calls density of curriculum
helping others	- it would be picking up for someone else who had problems and stresses - I would be prepared to work with him
happiness	- open school where everybody had a lot of fun so I have a vision that this is a nice place to come to and students want to be here
respect for others	- kids are neat people - value basic interest in people
survival	- we agreed on what we could bite off and chew reasonably - trying to do everything and be everything to all—just couldn't do it
Moral	
responsibility	- I think it's my responsibility as an administrator to look at these details ... those are administrative details that I think are my responsibility rather than the teachers - I think it's up to the principal, not on a direct basis, but very, very quickly to just move around and just make sure
carefulness	- we'd have to make sure we'd done our homework and that we had a very sound case - don't kid yourself, I'll be monitoring it. I'll let them try it but I will monitor it carefully
fairness	- I think that's where the fairness and the objectivity is—always in the foreground - its hardly fair to keep going and taking and never giving
Social and Policital	
participation	- we felt we needed to get our students, especially at the grade six level, more involved in the school - I still try and involve people who were concerned about the issue
cooperation	- hoping that we'd get the staff to trust each other and to work together to be able to work well with classroom teachers - if you're going to be successful and reach these goals, you have to work together to get there
sharing	- share ... with the community in handbook form - you bring it back, discuss it and share it
solidarity	- a school that really has an identity ... a school that has a sense of direction with a plan of action - I just wanted to focus on something the students could think about, that the teachers could think about, and that I could think about
respect for authority	- they (the Board) are the ones who make the rules, they set the standards for the district, we just implement it - if the policy is laid down early and the teachers are all aware of it and again it would be set down and then presented to the staff
commitment	- it's really important that they have ownership into it - it does take a group commitment
community	- help the overall staffing situation in the district and provide someone else with an opportunity - you have to look at the total picture and how it affects the greatest number of people

the dominant basic human value in Phase 2 mentioned by all principals in each phase and in each decision task. Knowledge is the highest ranked basic human value and third overall when the combined Phase 1 and 2 frequency is considered.

Influences of Values as Compared With Other Relevant Influences

Principals were asked to identify in a general sense the influences on their decision making. From their responses, a set of six primary influences emerged, three internal and three external. The internal influences of concern for students, effect of decision, and commitment of others to the decision are illustrated respectively in the following interview excerpts: "kids come first and then other things fall into place after that. So that's the strongest influence," and "in cases where not every staff member is influenced or affected equally, then more isolated discussion takes place with individuals who are affected rather than with those that are less affected," and "I think buying into an idea by the people being affected is."

Principals identified the external influences of time, money, and factual information. The importance of time is reflected in comments such as, "you could look at costs as well—what's its costing us ... It's costing us in terms of time." Money was identified as an important influence on the decision making process as evidenced by; "they have to know that dollars count." Comments such as, "you state the facts" and "we'd have to make sure we'd done our homework" and "I'd have to gather a lot of information," indicate the attention given to facts and reflect the presence of the influence.

Situations of Conflict

A focus on conflict situations provided another opportunity to explore the influences values play in decision making. When principals find themselves in a conflict situation, how do they resolve it? The conflict arises as a result of external or internal directives or pressures. External conflicts are those that arise because an external directive contradicts a value held by the principal. The data indicated that when policy conflicted with their values, principals responded initially by implementing that policy. They dealt with or resolved the conflict by moving to change or amend it to be more compatible with their personal value position. Such external pressures are assessed and courses of action determined through the principal's individual value filter.

In the case of internal conflicts, that is, when principals are uncertain of how to proceed, principals are not clear as to which values ought to be guiding their action. The eight principals recalled situations representative of internal conflicts by discussing situations when "their actions had gone against their better judgment." In these cases the value choices needed to precede action.

Principals' values give meaning to information that is encountered. Values, therefore, are influential in a principal's decision making process in comparison with other influences. When, through the values filter, information is interpreted as being important, that information becomes an influence on principals' thinking and possibly on their action.

Orientation to the Role

The traits specified by principals in explaining the differences between the administration of their school and others in the district related to the principal's orientation as determined by the *Principal Profile* (Leithwood & Montgomery, 1986). The Profile describes principal practice in terms of four orientations; Administrator, Humanitarian, Program Manager, and Problem Solver. A value-behavior relationship existed. In explaining the differences in the administration of different schools, principals highlighted those aspects of school life specific, important, or unique to their school. These specifics were a result of principal decision making and action. Principals indicated that they consciously noted these differences and strove to highlight the factor that identified their school. Their actions promoted the unique features.

The distinguishing feature of the school was consistent with the principal's orientation in seven of the eight cases. Knowledge, responsibility, and participation were dominant values for the Program Manager who, as the name implies, has a program focus. The consistency in these data reflects a singular and focused image of principal with this orientation. The dominant basic human value of knowledge seems logically consistent with the priorities of the Program Manager perspective. Similarly, in the case of the second represented orientation, that is, Humanitarian, the basic human value of respect for others was dominant. Although too limited to be definitive, the data indicate a relationship between a principal's orientation and his or her dominant values that consequently influence action.

Discussion

This study examined the nature and influence of values in principal decision making using Beck's (1984a) values framework to guide analysis. The eight principals appeared to attach particular importance to a set of 15 values that span three value types: basic human, moral, and social and political.

Why is it that these elementary school principals discuss school decision making in these terms? Basic human values are, as the name implies, basic, that is, linked to human need. These values are seen as important in themselves and also in relation to values in other categories. Principals' comments indicated a similar or common need to treat people (staff, students, parents) in a manner that communicated the principals' view that they had importance. It is reasonable, therefore, that reference to this type of value would punctuate principals' speech. Basic human values are part and parcel of everyday living.

Similarly, social and political values were frequently identified as being particularly important to the principals throughout the data analysis. Social and political values are social in nature, and these values of consensus and consequence have relevance for group settings. The collectivity or community is a necessary condition for the reflection of these values and the nature of school satisfies that condition. School is a social organization. Learning and practicing socialization skills is important in the school environment. The community setting necessitates attention toward participation, cooperation, sharing, solidarity, and so on. The values of cooperation,

sharing and participation received repeated principal attention. Perhaps this is so because these are not mutually exclusive. Participation is necessary in order to cooperate and sharing may aid cooperation. In order to share time, ideas or materials, one is cooperating with others and in order to participate, one may need to cooperate. Consequently, the socially oriented values logically play an important role in school life and were dominant in the data.

Hodgkinson (1978) discusses consequences and consensus values in social, rational, and reasoning terms. For Hodgkinson, they are "values associated with custom and reason" (p. 145) and "the grounds are social for they depend upon collectivities and collective justification" (p. 112). Schools provide instances of the social context to which Hodgkinson refers. The importance of consequences and consensus is evident in the principals' attention to the effect of their decisions (consequences) and their preference to have the participation and commitment of staff (consensus). The decision making themes that emerge from the data exemplify principals' concern for consequences. Principals consider the consequences of decision making prior to the action.

Results of this study correspond to findings presented in similar research. In a study of computer adoption and use, Begley (1988) explored the influence of principals' beliefs and values on implementation. Values grounded in consequence and consensus were dominant. Using Hodgkinson's (1978) value model to guide analysis, Begley reported that, "The perceptions of most principals about computers seemed to be grounded predominantly at the level of consequences and consensus ... Few principals among the 15 interviewed were motivated by values of preference ... Values of principle were not frequently expressed" (p. 64). Application of these two perspectives resulted in analysis more similar than different.

Conflict, as an influence on decision making, was explored in both Phases 1 and 2. These data support the value position outlined in the conceptual framework of this study. The value system is fluid and dynamic, not static and set. When a principal described his or her action in a conflict situation in a way that reflected respect for authority, all other values important to that individual were not extinct; they assumed secondary positions. If values were an all-or-nothing phenomenon, then respect for authority, being stronger than all others in this case, would dictate behavior. The situation would stop at the initial "policy-following action" of the administrator. Principals described, however, that once the policy had been adhered to, they began to deal with the conflict. They all proceeded to "do something." Here, then, value structure shifted and adjusted and other values came to the fore. Sharing the situation, inviting participation, and seeking information followed implementation of the policy. These principal actions revealed attention to, and importance of, values other than respect for authority. That initial value, still in existence, then took a less prominent and influential role in the subsequent action of principals.

Research Directions

Specific attention to principal goals and the value component of those goals specified in Beck's and Hodgkinson's terms, is an important focus for future

research. The relationship of goals to values is one area for exploration. Beck (1984b, p. 8) suggests that although values are both means and ends oriented, basic human values tend to be more ends focused. Basic human values were prominent in the data; they had importance for principals. If values in this category are more absolute than instrumental, then they must represent the goals, not the processes of principals. If goals are value linked, perhaps ends focused basic human values can be explored through principals' public and private goals.

The Principal Profile (Leithwood & Montgomery, 1986) suggests that clearly stated principal goals contribute to improved student outcomes. Helping principals learn to clearly state goals and then looking at the influences of a clearly stated value stance and school vision on teacher and student behavior may aid our understanding of the importance of value awareness and its relationship to student outcomes. The data suggest a relationship between principal orientation and basic human values.

An examination of administrators' own process of decision making and attention to the roles values play in that process can occur through a principal's review of his or her recent school decisions. Recognition of similarities, themes, and consistencies would put principals in tune with their own decision making preferences of which they may or may not be aware. Attention to differences and inconsistencies may expose important influences, pressures, and demands in those particular decision making situations.

Knowledge of the role of values in principal behavior is still sketchy. There is no clear evidence or specification of the role, but existing research and theoretical writing have increased acknowledgment and awareness of the importance of value questions. This awareness can develop in a reflective direction. Reflection has application when values are recognized as an organizer in confused or complex situations and problems. In daily practice Schön's (1983) concept of reflection-in-action makes sense. In practice then, administrators need to start thinking about their values as they act and also to think about the role and influences of values after they have acted. In order to do this effectively, professional development sessions must provide administrators with appropriate background and basis for the task.

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Educational Assessment in Canada: Evolution or Extinction?

Educational assessment in Canada is not, nor will it become, extinct. Accountability testing, with its movement toward new methodologies, is here to stay. And it is equally clear that student assessment is an integral part of teaching and learning, and that good teaching cannot exist without valid assessment of the students to be taught. The evidence suggests, however, that teachers do not perceive themselves, nor do they appear to be, competent in classroom assessment. Further, it appears that teacher education programs do not provide adequate training in classroom assessment. To address this issue, five suggestions, derived from course outlines obtained from 33 universities across Canada and from the literature, are made together with a call for a review of the assessment component of the preservice education program at each Canadian university in terms of the Standards for Teacher Competencies in Educational Assessment of Students.

> The elemental stuff of the measurement courses and textbooks is as foreign to classroom teachers as spectral analysis of glaze mixtures is to potters—and apparently as irrelevant. (McLean, 1985, p. 39).

There appears to be a paradox in educational measurement today. While assessments of achievement are being more urgently called for and more widely employed than ever before, those responsible for training teachers are seemingly turning away from including measurement and evaluation as a major component of their preservice teacher education programs.

Three reasons for this apparent paradox are suggested in this article. First, the dominant view of measurement over the last 20 or 30 years on accountability testing has unintentionally contributed to widening the gap between measurement and classroom instruction. Second, while teachers spend a great deal of their time on classroom assessment, evidence suggests that teachers do not perceive themselves, nor do they appear to be, competent in classroom assessment procedures. This lack is ascribed to the observation that teacher education programs do not provide adequate training in classroom assessment. The article then concludes with a series of recommendations that, hopefully, will serve as a beginning to improving classroom assessment practice.

The Dominant View of Testing: Accountability Testing

The trend toward new and expanded testing reflects, in part, a call for greater accountability. Much of the public concern through the 1970s and into the 1980s focused on "declining standards" or on related matters indica-

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tive of the fear that schools were not doing a good job of quality control. Politicians responsible for allocating funds for education wanted to know if they were getting their money's worth.

Consequently, large education reforms implemented during the past few years have explicitly incorporated either the use of new tests or the expanded use of existing ones. In Britain, for example, new national tests are a key tool in the government's effort to enact far-reaching changes in that nation's educational system. Central to this reform is a unified national curriculum backed by a series of tests administered to children 7, 11, 14, and 16 years of age. In the United States, the governing board of the National Assessment of Educational Progress recently announced a set of uniform standards to be applied to NAEP reports. Intended to further state-by-state comparisons and to provide an incentive to improve achievement, the standards are to remain constant for the foreseeable future so that results of each of its biannual assessments can be compared (Barringer, 1990; Linn, 1989).

Turning to the situation in Canada, concerned with the quality and effectiveness of their education systems, the Council of Ministers of Education, Canada will assess the achievement of 13- and 16-year olds across the country in literacy and numeracy in 1992. Several provinces (e.g., British Columbia, Alberta, Ontario) are looking at ways to incorporate performance measurement and portfolio assessment into their provincial and assessment programs. Interested in how they fare internationally, nine provinces are taking part in the Second International Assessment of Educational Progress in 1991. All provinces will participate in the Third International Study of Mathematics and Science scheduled for 1993/1994.

Available evidence suggests that over the past 20 or so years this call for accountability has influenced measurement practice in a major way: The dominant view regards measurement as the means of documenting student achievement by using externally developed standardized paper-and-pencil tests, including provincial assessment instruments and examinations, for public accountability (Stiggins, Conklin, & Bridgeford, 1986). This view may have unintentionally contributed to widening the gap between measurement and instruction. Glass (1986) laments,

> In short, it [testing] sold out to the highest bidder; it went Establishment. In the world of work and in education, testing stepped forward to play the role of gatekeeper and management tool in the processing of human lives for the meritocracy: professional lighting rod attracting and grounding the anger of the excluded and discarded (p. 14).

Distinction Between Accountability Testing and Classroom Assessment

In advancing the premise implied in the previous paragraph that measurement for instructional and grading purposes ought to occupy the preeminent position, it is not intended, nor should it be construed to mean, that testing programs initiated and conducted in Canada by ministries of education and local school boards should be ignored. Indeed, as pointed out by Traub (1990), governments that have public support for "external surveillance of student achievement" will continue with provincially [and district] mandated testing programs (p. 91). But what needs to be understood and preserved are the

distinctions between accountability testing and classroom assessment (Cole, 1988; McLean, 1985, 1990; Shepard, 1989). Briefly, as displayed in Table 1, measurement to serve accountability and policy goals typically is mandated by an external (to the classroom) agency marked by a high pressure environment, typically highly reliable, widely applicable, sensitive to aggregated change, and centrally processed. Results are of a summative nature and must be in a form useful to policy makers, which usually means reducing complexity to, preferably, a single score for a school, district, or province. In contrast, assessments designed to support instruction and to be used in grading are teacher mandated (although within reporting constraints typically set outside the classroom (see Wilson & Rees, 1990), take place in a somewhat lower pressure environment, incorporate both formal and informal techniques and strategies, less reliable (although aggregated scores are more reliable), adapted to the local (classroom) context, sensitive to short-term change in students' knowledge and understanding, and locally scored. They provide immediate, detailed, and complex feedback at the student level, and they incorporate tasks of instructional value themselves.

The Nature and State of Measurement and Classroom Assessment

Research on teaching reveals that day-to-day assessment of student learning is unquestionably one of the teacher's most demanding, complex, and important tasks. Every model of the teaching/learning process requires that teachers base their decisions—instructional, grading, and reporting—on some

Table 1
Distinction between Accountability Testing and Classroom Assessment

Accountability Testing	*Classroom Assessment*
Serve accountability and policy goals	Serve instruction and grading
Provincially, district mandated	Teacher mandated
High pressure environment	Lower pressure environment
Formal	Formal and informal
Reliable	Less reliable[a]
Widely applicable	Adapted to local context
Sensitive to "accumulated" change	Sensitive to short-term change
Centrally processed	Locally scored
Aggregated (school, district, province) reporting	Student reporting
Summative	Formative and summative
Reduce complexity to a single score	Detailed and complex feedback
	Incorporate instructional tasks

Adapted from Cole (1988), McLean (1985, 1990), and Shepard (1989)
[a]Although individual teacher made tests and assessment instruments are likely less reliable than a standardized test, the accumulation of data gathered about individual students during the course of a reporting period has greater accuracy.

knowledge of student progress toward desired learning outcomes. The complexity of classroom assessment—the process by which inferences are drawn about student progress—is seen from the range and frequency of teachers' decisions and the plethora of student learning outcomes and behaviors teachers consider when making these decisions.

Yet, given the prevalence and importance of classroom assessment, our understanding of in-class assessment practice still needs to be more fully developed. Following their review of research on testing in schools, Lazur-Morris, Polin, May, and Barry commented in 1980 that,

> In-class assessments made by individual teachers have yet to be examined in depth. How these and other assessments are united with teacher instructional decision-making processes and how they affect classroom organization and time allocation to other objectives are areas that should be explored. Teachers place greater reliance on, and have more confidence in, the results of their own judgments of students' performance, but little is known about [these] kinds of activities. (pp. 24-25)

Since that time, several research studies in which teachers and students were surveyed and interviewed and/or classrooms were observed have revealed a series of consistent findings. The findings of these studies are summarized in Table 2. Taken as a whole, they confirm the earlier suggestion that the day-to-day assessment of student learning is indeed a complex and demanding task. However, while teachers appear to value classroom assessment as an instructional tool and feel assessments benefit their students, the formative purposes give way to summative purposes with increasing grade. As described by Wilson (1990), the use of assessment information changes "from internal classroom uses to external public ones" (p. 16). Teachers work alone when developing their assessment methods. Although they use a variety of techniques, they tend to prefer objective, short answer/completion paper-and-pencil tests. Further, they tend to focus their items on lower order knowledge and skills; their tests provide little indication of the attainment of higher order cognitive knowledge and processes.

Teachers appear reluctant to commit the time needed to evaluate the quality of their own tests, and there is strong evidence to suggest they are ill-prepared to engage in quality control. The evidence further suggests that teachers' grading practices are suspect. Student grades are based more on the assessment of lower cognitive skills and less on desired higher level thinking. Frequently factors other than those of interest are included in a grade. And, while teachers suggest that by taking the simple sum of the components to be used to form the final score each component will count equally, differences in the standard deviations of the component scores suggest otherwise. As Messick (1989) points out in his excellent chapter on validity, problems such as these serve to undermine valid score interpretation and use.

To illustrate these issues, consider the following two examples. The first demonstrates the possible confounding of score interpretation due to the presence of construct-irrelevant test variance (Messick, 1989, p. 34). Test-wiseness is a cognitive ability or set of skills which a test taker can use to improve a test score no matter what the content area of a test (Benson, 1988;

Table 2
Summary of Findings from Research on Classroom Assessment

1. Teachers view tests, particularly teacher-made tests, as important instructional tools. They report tests
   - help focus teaching
   - provide feedback on instruction
   - provide feedback on student progress.
2. Teachers believe tests are of direct benefit to students
   - act of taking a test is a learning experience
   - motivate students to study
   - create student competition
   - improves student interaction.
3. Teachers use tests, and argue it is better to give more frequent short tests than to give long tests infrequently.
4. The typical teacher spends at least 20% of his or her time on testing activities.
5. Teachers view themselves as being in charge of the testing done for instructional purposes, although external regulations and expectations colour much of the data gathering activities. The actual role of measurement and evaluation varies across grade level.
   - primary level—teachers tend to use classroom assessments to comment on the growth of individual students and the success of a particular unit or activity.
   - beyond primary—increasing emphasis given to producing marks for grading.
   - senior level—focus on external, end-of-year examinations (where they exist) and agreement between teacher and external examination marks.
6. Teachers indicate preference for creating their own test items, with the higher the grade level, the greater the tendency to use their own assessment instruments rather than published tests. They do use other sources, particularly "textbook publisher prepared items" and, in the case of external year end examinations, "old" exams.
7. Teachers use a variety of assessment techniques (paper-and-pencil tests, anecdotal records, published tests, laboratory write-ups, projects, essays, individual work contracts, oral tests). Teacher-made objective tests, particularly short answer/completion, are the most common.

   Assessment procedures differ as a function of grade level: Elementary, particularly primary, teachers employ observation of classroom work whereas secondary teachers prefer paper-and-pencil tests. Formative purposes of evaluation at the elementary level give way to summative ones at the secondary level. Assessment procedures also differ as a function of subject area: mathematics and science teachers rely more heavily on paper-and-pencil tests. Teachers of speaking and writing tend to include more performance assessments (orals, essays, projects).
8. Teachers use essay tests to measure higher level cognitive skills. They believe essay tests
   - better evaluate higher order cognitive learning
   - in general provide a better evaluation of student learning.
9. Teachers tend to focus on lower order thinking skills (recall of declarative or procedural knowledge).
10. Teachers do not vary their assessment methods very much as the purpose of assessment varies. Nor to they anticipate having to change.
11. Teachers score and grade their own tests.
12. Teachers do little in the way of formal test analysis. They indicate they lack the time for effective quality control over the assessment instruments they develop. Further, they appear to lack the requisite skills.
13. Grading practices of teachers appear to be faulty. Academic grades incorporate other factors; quality of data used to form the grade not known; inclusion of formative and summative data; errors in aggregating scores.

Source: Anderson (1989); Anderson, Muir, Bateson, Blackmore, & Rogers (1990); Bateson (1990); Gullickson (1985, 1990); Gullickson & Ellwein (1985); Impara, Divine, Bruce, Liverman, & Gay (1990); Manke & Loyd (1990); Nickerson (1989); Stiggins & Bridgeford (1985); Stiggins, Conklin, & Bridgeford (1986); Stiggins, Frisbie, & Griswold (1989); Wilson (1990).

Millman, Bishop, & Ebel, 1965; Sarnacki, 1979). If a test taker possesses test-wiseness—partial knowledge about what an item is measuring and the ability to take advantage of item clues or cues—and if the examination contains flawed items with clues or cues, then the combination of these two factors can lead to an improved score. In contrast, students low in test-wiseness will be penalized every time they take a test that includes test-wise components.

Table 3 contains a summary of an analysis of the influence of test-wiseness on student performance on six grade 12 provincial examinations administered in British Columbia in June 1989 (Rogers & Bateson, in press). As shown, 43 to 80% of the items on these six examinations, which were developed by committees of experienced teachers, contained test-wise cues. Further, the results reveal the mean performance of the students on the subsets of items identified as test-wise susceptible exceeded the mean performance on the subset of nonsusceptible items by 9.2 to 16.4% ($p <$. 01). These findings seriously suggest that interpretation of examination scores as valid measures of student knowledge and understanding of the subject matter and processes to be measured may be unwarranted. To the extent the partial knowledge is considered not relevant to the achievement tested, the interpretation of a test score will be confounded by construct-irrelevant easiness (Messick, 1989, p. 34). But if this partial knowledge is considered relevant, then the interpretation of the total score as a valid indicator of achievement may be more justified. Thus a potential validity problem exists when one attempts to interpret the meaning of the test score.

The second example illustrates the incorrect belief that by taking the simple sum of components (quizzes, weekly tests, etc.) to form a total score, each component will be counted equally in the total. Differences in the standard deviations of the component scores suggest otherwise. A sample of 31 elementary school teachers (Dauncey, 1986) was asked to regrade their students using total scores corrected in accordance with Ministry of Education guidelines (Taylor, 1979) for the unequal standard deviations of the component parts. In forming the initial total scores, the teachers believed they were counting the parts equally. The letter grades based on adjusted scores were then compared with the initial letter grades assigned by the teachers. A summary of the differences classified according to magnitude

Table 3
Summary of Test-wiseness Analysis

		Susceptible Test-wise Items			*Nonsusceptible Test-wise Items*		
Subject	*n*	*k*	$\bar{X}$	*SD*	*k*	$\bar{X}$	*SD*
English 12	736	21	67.9%	13.8%	7	58.8%	19.7%
Algebra 12	267	25	62.5%	15.6%	33	49.1%	14.7%
Geography 12	166	43	59.5%	11.8%	16	43.1%	14.0%
History 12	208	39	71.7%	16.7%	10	58.2%	20.1%
Biology 12	261	37	64.6%	15.6%	15	50.8%	18.1%
Chemistry 12	174	28	69.6%	15.4%	20	59.8%	17.6%

and direction of "change" is reported in Table 4. For example, a change from an initial letter grade of B to an adjusted score letter grade of C+ is recorded as a one-letter grade decrease. A change from a C+ to an adjusted letter grade of A is recorded as a two-letter grade increase. Almost half (46.2%) of the letter grades changed by at least one letter grade. How would a parent of one of the four children with a three-grade increase feel? Would you be satisfied with the initial grade? Would you feel comfortable, as a teacher, giving the parents of one of these children the initial grade?

Preservice and Inservice Teacher Education in Canada

Practicing schoolteachers suggest that the assessment of student learning is one of their most difficult tasks and that they have need of assistance. To illustrate, Marshall Arlin (personal communication, May 23, 1990) concluded his description of why an inservice university course was offered in response to a request from two groups of experienced primary school teachers with the following statements:

> These sections of the course were an attempt by the EPSE [Educational Psychology and Special Education, University of British Columbia] department to assist primary teachers in the implementation of the new Provincial Primary Program. Teachers had indicated that measurement issues were one of the hardest parts of implementing the new program.

Although sketchy and incomplete, the estimated number of inservice teacher workshops related to classroom assessment conducted during 1989/1990 in British Columbia (90; D. Bateson, M. Marshal, A. Taylor, personal communication, May 3, 1990) and Alberta (55; G. Thomas, personal communication, May 1, 1990; B. Krumbil, personal communication, May 8, 1990) portray a picture of need. Alberta Education received a similar indication of need in its survey of reactions to proposed changes to the provincial testing program at grades 3, 6, and 9. An overwhelming number of respondents (teachers, administrators, parents) believed it desirable that the Department provide inservice to assist teachers, school administrators, and trustees interpret and use achievement information (Horvath, 1990, pp. 2,4).

Table 4
Frequency of Letter Grade Changes

	f	%
One-letter grade increase	238	18.1
One-letter decrease	313	23.8
Two-letter grade increase	28	2.1
Two-letter grade decrease	23	1.8
Three-letter grade increase	4	0.3
Three-letter grade decrease	1	0.1
No change in letter grade	707	53.8
Total	1,314	100.0

Researchers who have assessed teachers' knowledge of classroom assessment practices have consistently voiced concern that teacher knowledge and skills are indeed inadequate (Bateson, 1990; Goslin, 1967; Gullickson, 1986, 1990; Mayo, 1964; Rudman et al., 1980; Stiggins, 1990; Stiggins, Conklin, & Bridgeford, 1986). Stiggins (1990) concludes: "The assessment community knows that teachers and administrators are in desperate need of assessment training; teachers and administrators know they need assessment training; but policy makers often are not aware of this gap in professional preparation" (p. 95).

One implication of these studies, and of those from which Table 2 was developed, is that preservice teacher education instruction in the area of classroom assessment is inadequate. There appear to be two plausible reasons for this: (a) many prospective teachers do not take a measurement course that deals with classroom assessment practices as part of their undergraduate teacher preparation; and (b) undergraduate measurement courses focus on the wrong topics or otherwise do not emphasize topics and activities related to classroom assessment.

Measurement and Evaluation Course Enrollment

To test the veracity of the first reason, representatives from the faculties/colleges/schools/departments of education (hereafter called faculties) at 33 universities across Canada were contacted by telephone and asked to describe the measurement and evaluation component of their teacher education program. The information and course outlines they provided revealed what may best be described as a patchwork of assessment training at the undergraduate level for both elementary and secondary teacher education students. Clearly, there is no uniform policy regarding the requirements for the assessment component of teacher education programs within provinces (with more than one university) or across Canada. Of the 33 faculties contacted, 25 offer at least one measurement course; eight offer none. Where more than one course is offered, it is either to serve different language groups, different levels of schooling, or different subject areas. Completion of the same measurement course is *required* of all elementary and secondary teacher education students in 10 faculties, of only elementary education students in five, of only postdegree elementary education students in one, and only vocational educational students in another. Ten faculties offer the same measurement course as an *elective* to both their elementary and secondary education students; an additional seven faculties offer measurement as an elective to only their secondary education students. The percentages of students who avail themselves of these electives vary. Across the 10 faculties with common courses, these percentages range between 5% and 34% for elementary, and 10% and 50% for secondary. The corresponding percentages for the secondary only option faculties for which information was available are 10%, 25%, 80%, and 90%.

These data are even more alarming when considered in light of the total number of teacher education students. It is not difficult to imagine that approximately 60% of the prospective elementary school teachers and up to three quarters of future secondary teachers will *not* complete an under-

graduate measurement and evaluation course prior to beginning to teach. Contrasted with the time these teachers will spend engaged in classroom assessment activities, this is a troubling image.

Students at both the elementary and secondary education levels do receive some measurement instruction in other undergraduate education courses that they are required to take. These courses may be found in curriculum, teaching methods, educational psychology, and/or foundations. The percentage of time devoted to assessment topics in these courses varies not only across faculties but also within faculties. Based on the information provided by the contributors, the time spent on measurement topics in these courses is equivalent to something between 10% and 50% (accumulated across courses where students take more than one) of a full-term (13 weeks) course. Further, disturbing as they were, contributors' comments left the distinct impression that the quality of measurement instruction is very much a function of the instructor's commitment to and his or her expertise in measurement.

Assessment Course Topics

Some investigators have argued that perhaps undergraduate educational measurement courses have focused on the wrong topics. In particular, elementary and secondary school teachers do not attach high importance to standardized tests and statistics, while professors teaching measurement do (Gullickson, 1986; Gullickson & Ellwein, 1985; Mayo, 1964). Further research (Gullickson, 1985; Salmon-Cox, 1982; Stiggins et al., 1986; Wilson, 1990) also suggests that teachers spend a great deal of time and energy in nontest evaluative activities. Gullickson (1985) found, for example, that of 50 topics rated for desired emphasis in a preservice measurement course, the greatest discrepancies between professors and teachers emerged on the following topics: Teachers wished for "great emphasis" to be placed on ways of "interviewing pupils and parents," "observing pupils' work habits," and evaluating "class discussions" and "interpersonal relationships"; the professors rated these topics as deserving only "slight emphasis." Indeed, the professors rated calculating the mean, variance, and correlation coefficient the highest.

Put in simple terms, teachers are more concerned with day-to-day issues related to the application of assessment processes and less with fundamental measurement principles. They want and need answers to questions like: What assessment procedure should I use for this purpose? How do I prepare for or construct this procedure? How do I score it? How do I use the information to make decisions?

In response to this situation and out of concern that potential educational benefits of student assessments be fully realized, a committee comprised of representatives from four educational professional associations in the United States (National Council on Measurement in Education, American Association of Colleges for Teacher Education, American Federation of Teachers, and National Educational Association) released in May 1990 *Standards for Teacher Competence in Educational Assessment of Students*. The Committee defined assessment

as the process of obtaining information which is used to make educational decisions about students, and to judge instructional effectiveness and curricular adequacy. The various assessment techniques include, but are not limited to, formal and informal observation, qualitative analysis of pupil performance and products, paper-and-pencil tests. Assessment competencies included here are the knowledge, skills and values critical to a teacher's role as educator. (National Council on Measurement in Education, 1990, p. 1).

Table 5
Appropriateness of Use of Standards for Teachers Competence in Educational Assessment of Students in Canada
1. University professors and Ministry officials ($n = 39$)
2. School teachers and administrators ($n = 124$)

			Reaction				
	Standard	*Group*	*SD*		*U*		*SA*
1.	Teachers should be skilled in choosing assessment methods appropriate for instructional decisions	1	0.0%	0.0%	2.5%	15.4%	82.1%
		2	0.0	.8	1.6	21.0	76.6
2.	Teachers should be skilled in developing assessment methods appropriate for instructional decisions	1	0.0	10.3	10.3	28.2	65.6
		2	0.0	.8	6.4	34.7	58.1
3.	The teacher should be skilled in administering scoring and interpreting the results of both externally produced and teacher produced assessment methods.	1	2.5	7.7	15.4	25.6	48.7
		2	0.0	2.4	5.6	40.3	51.6
4.	Teachers should be skilled in using assessment results when making decisions about individual students, planning teaching, developing curriculum, and school improvement	1	0.0	2.6	2.6	20.5	74.4
		2	0.0	.8	1.6	19.4	78.2
5.	Teachers should be skilled in developing valid pupil grading procedures which use pupil assessments.	1	0.0	2.6	10.2	20.5	66.7
		2	.8	2.4	14.5	28.2	54.0
6.	Teachers should be skilled in communicating assessment results to students, parents, other lay audiences, and other educators.	1	0.0	0.0	5.1	7.7	87.2
		2	0.0	0.0	2.4	17.7	79.8
7.	Teachers should be skilled in recognizing unethical, illegal, and otherwise inappropriate assessment methods and uses of assessment information	1	0.0	2.6	0.0	7.7	87.2
		2	0.0	0.0	8.9	28.5	62.6

Are these *Standards* appropriate for teachers in Canada? Shown in Table 5 is a summary of the degree to which a group of university education professors ($n=34$) and ministry of education officials ($n=5$) and a group of elementary and secondary school teachers ($n=95$) and administrators (n=29) agreed that the set of standards was appropriate to guide the preservice and inservice preparation of teachers. The university professors were surveyed at the beginning of the session dealing with the topics discussed in this paper and which was held during the 1990 conference of the Canadian Society for the Study of Education.[1] The teachers and administrators were from 29 public schools located in a large western Canadian city. They were surveyed at the beginning of the opening plenary session of a two-day conference on classroom assessment held in October 1990. As revealed in Table 5, a clear majority of respondents in both groups agreed that the Standards are appropriate to guide the assessment component of teacher preparation programs. More than 90% of the respondents in both groups agreed Standards 1, 2, 4, 6, and 7 were appropriate; in excess of 80% endorsed standard 5. Approximately 92% of the teacher/administrator group agreed standard 3 was appropriate; 75% of the university/ministry of education group did likewise. University professors who indicated that they were undecided about the third standard suggested that while teachers need to be able to administer, score, and interpret the results from teacher-produced assessment methods and externally produced tests such as provincial assessments and high school leaving examinations, they need not be skilled in administering, scoring, and interpreting externally produced, individually administered tests used for screening and diagnostic purposes.

Clearly, this acceptance of the *Standards for Teacher Competence in Educational Assessment of Students* presents a serious challenge to teacher educators as they design and approve programs for teacher preparation. The suggestions presented below, which were derived from the course outlines in the telephone survey and from the literature, are intended to help facilitate the changes in the assessment component of undergraduate teacher education programs so that prospective teachers will be adequately prepared for the classroom assessments they, as practicing teachers, inevitably will do.

1. Generally, interpretation and grading are two of the last topics listed in the outlines. Given the frequent problem of time running out, it is more likely than not that these two topics, rather than others, are given short shrift. Teachers, though, remind us of their importance. Steps must be taken to ensure both are adequately covered. For example, attention must be paid to the melding *evaluative* evidence so strongly desired by parents with *explanatory* evidence necessary to support a meaningful interpretation of that evaluative evidence.
2. Nontest procedures are typically stressed more in courses or sections of courses intended for elementary, particularly primary, education students, and less so for secondary education students. Teachers at all levels, though, employ the full range of assessment tools: paper-and-pencil tests, performance assessments (observation of and judgment about behaviors and products), and personal communication with students. Due attention

must be given to all of the techniques as well as to the different levels of learning within the cognitive, affective, and performance domains.

3. Authentic assessment (McLean, 1990), which incorporates both paper-and-pencil tests and applied performance assessment, provides a fresh view of what ought to be included in a classroom assessment design (see point 5 below). Thinking—a knowledge based, discipline oriented function—is the centerpiece of curriculum reform. All students are encouraged to think, engage in real-world problem solving, and to study curriculum that respects the integrity of the disciplines yet emphasizes the connections among them. By widening the evidential basis underlying classroom assessment, the more meaningful and relevant assessments will become in providing the basis from which to assess student achievement (see, e.g., Biggs & Collis, 1982; Glaser, 1988; Maguire, 1991). Performance on paper-and-pencil tests is alone too narrow a base for assessing student learning in the classroom.
4. Use of computers in classroom assessment is gradually becoming more common. A decade ago microcomputer software was primitive in form. But recent advances are viewed as holding significant promise for improving the capability of teachers to assess effectively in their classrooms. Even though recent research (see Hsu, 1989) suggests much more remains to be learned before microcomputer applications will become straightforward in the classroom, there still is need to discuss microcomputer advances that can now be readily incorporated in classroom assessment (e.g., in test quality control; storing and updating instructional objectives and test items and forms; keeping records and storing grades).
5. Instruction in assessment design must become a part of a meaningful classroom assessment course for preservice teachers. Planning an assessment design for a course will help integrate classroom assessment with instruction (Dassa, 1990; Nitko, 1989). Such planning organizes an overall perspective on the decisions to be made and the contexts within which they will be made. That is, the assessment design should not only describe what is to be done, but *why* it is being done and *how* it will be used. Attention to individual instruments and procedures and the trade-offs in using different instruments and strategies will then come naturally.

Conclusion

Educational assessment in Canada is not, nor will it become, extinct. Accountability testing, with its recent movement toward new assessment methodologies (e.g., in British Columbia [Bateson, personal communication, May 22, 1990] and Alberta [Horvath, personal communication, November 20, 1990]), is here to stay. And there is no question that student assessment is an essential part of teaching and learning, and that good teaching cannot exist without valid assessment of the students to be taught.

In the past, practicing teachers have either not been motivated or have not been given the opportunity to learn about assessment methodology. Assessment training must be an integral part of the preservice or undergraduate preparation of all teachers. Further, where needed, such training should be made available to teachers in the field. Adherence to the *Standards for Teacher Competencies in Educational Assessment of Students* cannot

help but improve both accountability testing and classroom assessment. Accordingly, the assessment component of the preservice education program at each Canadian university should be reviewed and evaluated in terms of what is called for in the *Standards*. Fairness and equity demand no less.

Note

1. This article was adapted from the author's President's Invited Address, Canadian Educational Research Association, June, 1990. The author is indebted to Thomas O. Maguire for helpful comments on early drafts of this paper, and to the many colleagues who willingly provided information on the measurement and assessment courses taught to preservice teacher education students at their respective universities.

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